New Orleans Medical

and

Surgical Journal

Vol. 81 JULY, 1928 No. 1

THE EVOLUTION OF MEDICAL TEACHING IN NEW ORLEANS.*

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NEW ORLEANS.

The medical department of the University of Louisiana, since 1834, now Tulane since 1884, is the oldest medical college in the southwest and had existed as a private institution since 1831. When merged in the University, it was its sole department: the law and academic being established later.

The rights and privileges it possessed prior to the change were not materially affected, it was practically autonomous until during the deanship of Dr. Chaillé, by faculty vote it became in deed, and in fact, an integral part of the university.

I matriculated at the opening of the session of 1859-60, sixty-eight years ago. The teaching staff numbered nine, including two demonstrators of anatomy. There was no entrance examination, to read and write were the only requirements. Each professor collected the fees for his lecture card, later this was assumed by the dean and after the surrender at the headquarters of the university.

Two annual sessions of four months each were required for graduation. In 1879 it was extended to four and a half months, a few years later to five, and in 1893 to six months; after 1909 to nine months.

The course of instruction in my student days consisted in attendance on seven lectures daily, one of them clinical in the amphitheatre of the Charity Hospital, two hours of bedside clinics in the wards with no division of the students in classes until 1869, and two hours of dissection in the laboratory of practical anatomy. I attended but one course of lectures having become an interne of the Charity Hospital at the close of the session which exempted me from attendance on lectures and was not regretted as I profited far more from my hospital experience.

The examinations were oral until about 1902, when written were required. Ignorance and illiteracy characterized the mental equipment of the majority of the student body, which did not improve until many years after the Civil War. The examinations were perfunctory and superficial, with but few rejections.

No change occurred in the staff until 1867 when a lecturer and instructor was appointed for eye and ear affections: a year later chiefs of clinics; in 1886, a lecturer and clinical instructor for diseases of the skin; in 1887, a pharmaceutical laboratory for pharmacy students only; in 1889, a laboratory of histology and bacteriology and a demonstrator; in 1890, one lecturer and clinical instructor of physical diagnosis, and also one for diseases of children, and in 1891, one lecturer and clinical instructor on minor surgery.

*This address and the following three addresses were delivered at the Semi-Centennial Anniversary of the Orleans Parish Medical Society, May 7, 1928.

As Dr. Chaillé states, from whose historical summary I obtained these data, the number of special studies in all branches of medicine taught were largely increased between 1885 and 1891, from 11 to 16, the laboratories from 2 to 5, and the number of teachers from 19 to 41, and marked the first notable evidence of progress since 1834.

The only thing noteworthy from that date until 1909 was the admission of women to medical studies, to whom that privilege had been granted many years before in the pharmaceutical course.

In 1903, the Richardson Memorial, now the Hutchinson, was completed and occupied, with well equipped laboratories of pharmacy, chemistry, practical anatomy, microscopic ond operative surgery. In 1909, the Richardson Memorial, with its well equipped laboratories was opened and occupied for the use of the first and second course students, very much to their advantage in the study of the elementary branches.

While progress continued slowly from 1901, it assumed a phenomenal rise from 1909 to the present day. The annual sessions were extended to four years of nine months courses each and for entrance requirements, a first-grade teacher's certificate and a year of academic studies, since increased to two years, and perhaps later to an academic degree, as required in some of the Northern colleges.

Besides the changes mentioned was the infusion of new blood in the appointment of four men of distinction as chiefs of departments, two of whom still continue in the faculty. Two others of like distinction in the medical world were secured as chiefs of the Chairs of Medicine and Surgery, within recent dates, who will give their undivided attention to college work and not to outside practice as was heretofore permitted the chiefs of the practical chairs which was not to the best interests of the students and university; a wise and progressive measure but recently adopted by the faculty and Board.

The teaching facilities have been greatly enlarged; there are in active operation, ten teaching and ten department laboratories. The staff now numbers one hundred and fifty-one, disposed as follows: ten to anatomy, ten to physiology, five to materia medica and pharmacy, four to biochemistry, nine to pathology and bacteriology, eight to pediatrics, forty-four to medicine, thirty-five to surgery, two to tropical medicine. This permits the division of students into small sections, which enables them to be more efficiently taught.

Among the causes most effective in overthrowing preconceived notions, views and theories entertained and taught dogmatically in the schools regarding diseases of a contagious and infectious nature, was the discovery by Pasteur and other eminent scientists of the role of micro-organisms in their production, which established the germ theory of infections and contagions, conveyed in many instances by insect carriers, as the mosquito, the flea, fly and other insects.

This knowledge led to the destruction of the mosquito and its breeding places, banished yellow fever from our midst, and the wholesale slaughter of rats and their flea carrier of bubonic infection, of which we had a few sporadic cases, no doubt prevented its spread. Furthermore, we learned to utilize our enemies, dead and alive, in manufacturing vaccines, antitoxins, serums for immunization and cures as is done now every day in typhoid fever, rabies, diphtheria and other affections. The roentgen-ray having come into use shed further light on the organs of the cavities as to their relations, normality or abnormality and pathological states. Great strides have been made in regional studies, heart, lungs, digestive and other organs of the body, necessitating far more intensive study and instrumental skill, possible to acquire in the course of studies for the doctorate to attain efficiency, which of

necessity developed specialization, as also the great advance along all lines of medical teaching.

In surgery and obstetrics bacteriological discoveries proved as revolutionary as in medicine after successful measures were adopted giving protection from infection.

It extended the field of surgical activities to the abdomen, removed the fear attending opening the peritoneal cavity which general fatalities attending on such operations in the past had endangered.

Then followed an era of the most brilliant achievements in surgical work, which raised surgery to the highest peak of glory. It was its renaissance and that of medicine and effected radical changes in medical and surgical teaching, with which this school kept pace and some of the earliest pioneer work in abdominal and gynesic surgery in the South was developed by one of its staff.

So large had the field of medical studies extended that division of labor followed as a necessity, establishing specialties which side-tracked the family doctor and his ideal relations with the families in his clientele.

Fear of Hospital Is Unwarranted.—Fear of the hospital should have no place in the mind of the modern citizen. In the days when medical science partook of the nature of witchcraft, mystery pervaded every branch of its practice. But the keynote of modern scientific medicine is confidence and hope. A hospital, therefore, is a place of sympathy and good feeling, a refuge in time of trouble. Mr. Oyler divides hospital critics into two groups: the wiseacres, who assume an air of omniscience when they really know little; and the timid of spirit, who are genuinely fearful. The hospital critic is inclined to compare the hospital unfavorably with his home, his club and his hotel. Mr. Oyler believes that if a fair comparison is made the critic will find that personal service is carried out to a surprising degree. The timid type of person is afraid because of the terrible stories he has heard of unpleasant experinces. Most of such stories are untrue or at least exaggerated.—Oyler-Weston, Hygeia, 6:28, 1928.

THE EARLY HISTORY OF THE ORLEANS PARISH MEDICAL SOCIETY.

A. E. FOSSIER, M. D.,

NEW ORLEANS.

There are today, in the Orleans Parish Medical Society, just a few fortunate members, who can send recollections reverberating to the period of the incipiency of this Association. The more numerous, less favored ones, became participants in its activities at different periods of its progress.

I have assembled those earlier happenings, as well as the events of subsequent times, in the following modest historical review.

The Orleans Parish Medical Society was organized in conformation to a resolution presented by Dr. Chaillé at the first convention of the State Society on January 14-15-16, of the year 1878: "That every member of this Association be charged with the duty of endeavoring to secure the organization of a medical society in each of the parishes of the State, prior to April, 1879."

The birth of the Orleans Parish Medical Society was heralded in the following editorial in the May issue of the New Orleans Medical and Surgical Journal for the year 1878, as follows:

"A meeting of medical gentlemen was held on Monday evening, April 22, inst., to establish a parish medical society in affiliation with the State Medical Association. The meeting was well attended. The only action taken was the appointment of a temporary chairman, Dr. Logan, of a committee on permanent organization, viz: Drs. Chaillé, Turpin and Herrick. This committee will report on Monday evening, May 6, when it is hoped that the objects of the meeting will be successfully accomplished."

And that Journal, for the following month, announced in an editorial entitled

"Orleans Parish Medical Society," that under this title a number of medical gentlemen have organized a society, which is to be affiliated with the State Medical Association. The president was Dr. Charles Turpin, and the Vice-Presidents were Drs. S. S. Herrick, Ernest Lewis, and J. F. Davidson. The secretaries were Dr. A. B. Miles and D. Jamison.

Thus is recorded the first or organization meeting of the Orleans Parish Medical Society, which was held May 6, 1878.

Dr. Chaillé made the assertion, that most, if not all, of the forty-six physicians who were the first representatives of the Parish of Orleans to the State Medical Meeting were the founders of the Orleans Parish Medical Society. This role of honor comprises the following names: Drs. W. G. Austin, J. C. Beard, S. W. Bemiss, Henry Bezou, C. J. Bickman, W. P. Brewer, P. C. Boyer, J. C. Carter, S. E. Chaillé, A. Chastant, Samuel Choppin, J. P. Davidson, F. S. Drew, J. B. Davis, L. A. d'Estampes, C. Faget, G. C. Faget, J. A. G. Fisher, A. G. Friedrichs, G. B. Gaudet, A. P. Gourrier, S. L. Henry, S. S. Herrick, Joseph Holt, F. Jamison, Joseph Jones, Thomas Layton, Samuel Logan, J. P. Lehde, E. S. Lewis, F. Loeber, A. B. Miles, W. S. Mitchell, Geo. K. Pratt, T. G. Richardson, M. E. Schlatter, F. D. Schmidt, M. Schuppert, L. F. Solomon, Howard Smith, H. S. Steinau, C. H. Tebault, C. Turpin, H. A. Veazie, J. M. Watkins.

The circumstances leading to the organization both of the State and Parish Societies, as well as their purposes and aims, are so closely interwoven, that a history of the latter without a perusal of the former is incomplete.

Due credit must be given to the Shreveport Medical Society, and to the defunct Plaquemines Parish Medical Society, for sounding the clarion call, which assembled the representatives from the different parishes, for the purpose of organizing a State Society to conform to the plans of the American Medical Association. In answer to the appeal of these two societies, a circular letter calling a medical convention to convene in the building of the Medical department of the University of Louisiana, now the Tulane, on the 14th day of January, 1878, was issued from New Orleans. Dr. Chaillé wrote that after a session of three days, spent in perfecting an organization and preparing for efficient future action, the Society adjourned on the sixteenth of January, to meet in New Orleans, on Wednesday, April 9, 1879; and that the proceedings of *"the first* and *only session"* have been published.

That year the Louisiana State Medical Society sent delegates to the convention of the American Medical Association, held at Buffalo, New York, and was represented for the first time in that body. An examination of the Transactions of the American Medical Association shows that Dr. C. P. Langworthy and Dr. Ernest S. Lewis, were present at that meeting as representatives of the Louisiana State Medical Society. The Orleans Parish Medical Society was represented by Dr. S. L. Henry. Dr. T. G. Richardson was present as a permanent member of the Association, and was also its President.

This history would be only an epitome of dry events, and the narration of uninteresting facts, without a consideration of the motives, the sentiments and the reasons, which influenced not only its success, but its errors and frustations. It is also befitting that the prevailing conditions existing in the medical profession antedating the founding of the society be analized.

We are greatly indebted to Joseph Holt for his fearless exposé of the chaotic conditions existing prior to the advent of this Society, whose semi-centennial we are celebrating tonight. His presidential address to the New Orleans Medical and Surgical Association delivered on December 2, 1882, is one of the most interesting documents in the annals of the history of the local profession. He said:

"Twelve years ago (1870) the only medical organization existing in New Orleans, after a few months of feverish and fretful life, died violently and was buried in merited obscurity, besides its predecessors; nearly all of tender age, none of them honored and regretted at their death. Anarchy reigned in our profession, and our wisest men had well nigh abandoned hope. Not only had the repeated attempts to establish a permanent organization failed, and this time disgracefully; but like noxious weeds, these left behind them baneful seeds scattered broadcast upon the fertile soil of our worse selves. They sprouted and grew and brought forth fruits—hatreds, incriminations and recriminations, back-biting, quarrelling, strife, and all manner of uncharitableness. Even casual conversation was burdened with the recital of some injurious story or severe criticism of another. With a few exceptions of personal predilection, physicians avoided each other with suspicion and contempt. The spirit of Esau possessed us."

A retrospection, although difficult because of the scarcity of medical news of that time, will show that the profession was divided into two camps: the dissenters, and the oligarchy. The former were principally recruited from the younger doctors, whose liberality and independence is to be greatly commended, because, today, we are indebted to them for the high standard of ethics, the amicable relationship and the spirit of tolerance, which have prevailed in the profession of this city many years. The latter, the oligarchy, who judging from the remaining records of that time, from the writings of Dr. Joseph Holt, a contemporary, and from an analysis of the roster of the officers and members of the New Orleans Medical and Surgical Association, for the year 1873, it is logical to assert, was composed principally of the older doctors and the teachers of the Medical College. Dr. Holt further tells us: "that the only notion of an Association that coterie had, was based on a huge constitution; a lot of statutory laws, called by them a code of ethics, which, among other things, provided for the establishment of an amusing little tribunal, a sublime mimicry of magisterial dignity, called a court medical, or some such terrifying title, that proved as effective as a Chinese gong in a battle; a sort of criminal court or inquisitorial judiciary, composed of a set of doctors, some of whom were refreshingly immaculate and peculiarly qualified as censors. These were to say whether a man was to be humbled and declared in public disgraced, or acquitted, or pardoned. They could disgrace but could not exalt—jealousy forbade! However, the code was all right; the only one all wrong was the egregious simpleton who deliberately permitted any set of men such extraordinary authority over himself: selling his birthright for less than a mess of pottage. But they did do it! and history has recorded that the very men who were foremost in enacting the laws were the first to defy them."

In 1873, a few of the most progressive and active members of the profession rebelled against the prevailing conditions, and with the hope of accomplishing the much needed reforms, established the New Orleans Medical and Surgical Association. Those young men who held the meeting in which that society was conceived were revolutionists. Their *coup d'etat* liberated the profession from an obnoxious code of ethics which provided an immunity to a privileged coterie, whilst exerting unreasonable constraint on a less favorable majority.

From an editorial in the New Orleans Medical and Surgical Journal for the month of March, 1874, the following is quoted:

"During the latter part of last year some of the physicians of this city determined to found a new medical association, who thus seem to have resolved that the supiness of their seniors should not become a reproach to them."

The reproof of these young men is expressed in the opening clause of their constitution and rules written in 1873, which reads: "For the mutual improvement, instruction and interchange of opinions and observations, the discussion of medical subjects, and the cultivation of kindly feelings among the members of the medical profession of New Orleans, the founding of a medical association is deemed advisable." The constitution that was framed claimed no authority outside of the meeting room, and exacted nothing more than regularity of attendance, the payment of dues, and the opening of discussion when appointed. The only provisions for membership were that an individual proposed must be a regular graduate of medicine, of good moral standing; and that a proven violation of the criminal law of the land was *ipso facto* an expulsion. The following were the signers of that declaration of independence: Drs. F. Loeber, President, and W. H. Watkins, Secretary. W. P. Brewer, J. J. Castellanos, J. M. Cullen, Oscar Czarnowski, L. G. Durr, C. A. Gaudet, V. Grima, S. S. Herrick, Joseph Holt, R. R. Hopkins, Frank Hawthorn, O. R. Lanng, Y. R. Lemonnier, Sam Logan, L. F. Solomon, R. J. Mainegra, L. S. McMurty, O. W. Perry, A. Pettit, Jos. Schmittle, F. T. Shepard, E. Souchon, Warren Stone.

It is a fact that, with the birth of the New Orleans Medical and Surgical Association, there also came into existence a kindlier feeling among physicians, and a renaissance of scientific activities. We may tonight repeat the words of Dr. Joseph Holt, that a great work has been accomplished; a great change wrought; silently, slowly, almost imperceptible. So great a change has taken place, indeed, that the medical profession in New Orleans of today, is no more like that of ten years ago, and we may add, sixty years ago, than peace and quiet, and contentment of mind, are like the wrangling of passions and perditions.

The first nine years of the existence of the Orleans Parish Medical Society were uneventful. It was somnolent. Its contributions to the medical literature of the day were scant. Its meetings were not regularly attended, because of the neglectful indifference of its membership. The same lethargy prevailed in the Louisiana State Medical Society. There were barely fifty members in the Parish Medical Society at the end of the year 1886, evidencing that it had not grown in membership during the first eight years of its existence.

A few of the younger doctors sensing that a strong active medical society would redound to the greater good of the profession, attempted to rejuvenate the Orleans Parish Medical Society. With this end in view they thought that Dr. Davidson, the Nestor of the profession of that time, beloved by all his confreres, especially the younger ones, was the logical individual to accomplish it. At the annual meeting in March, 1887, they elected him to the presidency of the Parish Society, and Dr. Chassaignac was selected secretary in order to assist in the more active duties.

Dr. Chassaignac wrote that at that time, the few members who still took an active interest in the two societies, having realized that they were the ones who were chiefly supporting the Orleans Parish Medical Society, as well as the New Orleans Medical and Surgical Association, which also had fallen into a state of innocuous dessuetude, after having been prosperous and very active for many years, came to the conclusion that this was a waste of energy and time, and that the two societies should be consolidated. For this purpose a committee was appointed to confer with the New Orleans Medical and Surgical Association. In April, 1887, this committee reported that it had offered the New Orleans Medical and Surgical Association to resign everything to it and to become part and parcel of the Association, provided it became affiliated with the State and National Association, thereby adopting

their code of ethics. A majority favored the amalgamation, but as it failed to receive unanimous sanction, the committee was in favor of dropping the matter.

The year 1890, however, was notable for the achievement of the unification of the medical societies of the city. The New Orleans Medical and Surgical Association having disbanded, donated the balance of its funds, about $60.00, to the Medical Library Association, which shortly after, also became absorbed by this society. Dr. Chassaignac stated that the Orleans Parish Medical Society thus became the only medical society here and included all the local men who showed an active interest in medical matters and organization.

The same blight seems to have affected the Parish and State Societies, and it is more than a coincidence, that this amalgamation was the needed stimulus which injected the virility and enthusiasm which spelled the success of both organizations.

Dr. Bemiss and Layton read papers at the first scientific meeting of the society held June 24, 1878.

We are indebted to the activities of the following members for the survival of the Society through the first years of its existence: Drs. Bemiss, Chaillé, Choppin, Cullen, Bickham, Copes, Davidson, Faget, Herrick, Henry, Jones, Friedrichs, Levy, Layton, Lewis, Miles, Pratt, McCutcheon, Lawreson, Schmidt, Turpin and W. Watkins.

A rejuvenation of the Society took place in 1887, when Dr. Davidson was elected President and Dr. Chas. Chassaignac, Secretary. From that time authentic records were kept of the Society's transactions.

The Society discussed for the first time the question of hospital abuse, May 18, 1890. The same day the house warming of its first home took place. A dream was realized, and an old but overwhelming ambition was at last achieved. It had dispirited and vexed the members not to own their own home, and so be forced to dependence upon others. This fact is attested by a report of the domicile committee of that year, which said:

"It is greatly desirable that this Society should have a place of meeting of its own, either by rental or purchase, and not be dependent upon the good will and generosity of others."

The home was an independent, one-story building, which consisted of two large rooms and a wide hall, situated on University Place, half a block from Canal, which was formerly the office of Dr. Joseph Jones. The place was leased for the modest rental of $20.00 per month. In order to finance the new home, the dues were raised from $5.00 to $12.00 per year. The membership totaled about 140 members. Dr. Callan was then president. Dr. Fomento, chairman of the domicile committee, in his report to the Society, on that night, said:

"I am happy to add that my distinguished friend and right bower, Dr. E. D. Martin, has consented to act as godfather to the newly born. May we not properly apply to him the French proverb: 'Un parrain est un second père l'orsqu'il n'est past le premier.' "

If this city is to achieve pre-eminence as a medical center, it will be the result of three essential factors: schools of medicine, a great hospital having almost unlimited facilities, and the last but not least, a medical library.

The history of this Society would be incomplete without mention of its library. Its evolution is interesting.

In 1887, a medical library was organized in this city intended for the use of physicians and pharmacists. It was called the "Louisiana Medical Library Association." It was housed in the Medical College of Tulane University. The dues were $5.00 per annum. Only 39 physicians availed themselves of the privilege of membership. A contemporary editorial

tells us that: "The medical library belonging to the Tulane University will be brought down from its hiding place in the garret of the Tulane Hall, and with the acquired and loaned volumes of the Library Association, will form a very respectable beginning of a library which should and which we believe will steadily increase in usefulness to the profession of Louisiana." The officers of the Library Association were Drs. H. W. Blanc, President, Edmond Souchon, Vice-President, and A. McShane, Secretary.

The Library Association proffered to surrender its library to this Society in December, 1889, providing the latter assumed all responsibilities, employed a librarian and admitted to membership its members. The first standing committee on Library was created at that meeting.

Dr. Blanc, the founder of the Library Association, is in reality the father of the library, but due honor should be given to Dr. Davidson, then President, and to his young Secretary, Dr. Chassaignac, for their vision in agitating its formation. The absorption of the library by the Orleans Parish Medical Society was heralded as an important event in the history of Medicine of this city, because it brought together in one organization all the local medical men who took an active interest in the welfare and progress of their profession. Dr. S. P. Delaup was the first librarian.

Dr. Parham in his presidential report for the year 1895 said: "The phenominal increase will be understood when I tell you that in July, 1893, there were only 121 bound volumes in the library; by December, 1893, five volumes were purchased and 152 volumes were donated by Drs. Chassaignac and deRoaldes. In 1894, unfortunately, the Librarian made no report, but it appears that the library was in a sluggish state during that year. The moving into new quarters infused new life. Here are some of the items:

Purchases at U. S. Barracks, at 10 cents per volume, bound	250
Donated by Dr. Bruns	216
Donated by Mrs. W. P. Schuppert	550
Donated by Dr. W. E. Brickell	39

and a number of smaller donations, making 1342 bound and 130 unbound volumes added during 1895."

The indexing of the library began in 1893. Dr. Delaup reported that when he assumed the duties of librarian in 1891, he found a catalogue without a single entry, a lot of medical journals and other pamphlets thrown promiscuously on the top of high shelves, a few weeklies and monthlies on the stand, and an infinite number of bound volumes in nearly every room of Tulane Hall.

In 1904, through Dr. Chassaignac, the New Orleans Polyclinic donated 1400 volumes to the library, and in 1921, Mrs. William Kohlman presented to the Society about one thousand volumes, the library of her distinguished husband.

In 1907, the members were permitted, for a limited period of time, to take the books to their homes.

From this humble beginning grew our present library. Its days of uncertainty are passed. Its growth will be rapid, its future assured. It has an endowment of $10,000.00, and receives approximately 150 new books from the best publishers of this country and Europe without cost, because of a clause of the agreement of the gift of the New Orleans Medical and Surgical Journal to the State Society by the Committee on Arrangments of the 1920 Convention of the American Medical Association, that all books sent to the journal for review must be given to the library.

It contains today, approximately, 16,000 volumes, of which 14,365 are bound volumes. This library is the most treasured possession of the Society.

The Society soon outgrew its first domicile. Many of its presidents stressed the

necessity of the Society owning its own home. President Magruder, in his inaugural address, forcefully urged this need, hear what he said: "The one thing now of permanent importance to us is a domicile, and I say to you here tonight, look about you and see if this meeting room is a credit to the Medical Profession of New Orleans. No, it is not, and there is no reason why we should remain in such quarters. While we have not the wealth of some of our Northern neighbors, surely it cannot be said that among more than 200 physicians here, not enough money could be raised to purchase and maintain a proper domicile that would be a credit and an honor to us. We are stronger than ever before and action should not be longer deferred."

A dream of twenty years had at last been realized. November 12, 1904, the Society met for the first time in its own home.

The three-story building on Elks' Place, corner of Cleveland avenue, was purchased for $5,000.00. A true house warming celebrated the occasion. Drs. Chaillé, Joseph Holt and Rudolph Matas were the orators on that occasion.

Again the Society soon outgrew its quarters. Dr. Granger in his presidential report for the year 1908, agitated the question of a larger domicile, with more sitting room, and with a larger shelving space for books, in short, one more comfortable to a society of this size and importance. And Dr. Seeman in his inaugural presidential address asserted that: "The present domicile of the Society is unfit in size, condition, and arrangement to house for a much longer period this Society, numbering as it does nearly 300 members, and some steps should be taken to better this condition."

On the same site a building was erected, and on March 13, 1911, the house warming meeting was held. Drs. Chaillé and Chassaignac were the historians of that night, Dr. Ledbetter was the President, and to his efforts is largely ascribable the erection of the new building.

Insufficient revenues added to a large mortgage, plunged the Society into financial distress, and it was soon confronted with the alternative either of selling its building or of having bankruptcy thrust upon it. Dr. Fossier suggested that the only way out of the difficulty was to give a benefit to the end that the much needed funds to save the credit of the organization could be more quickly procured. A committee headed by Dr. Fosser, with Drs. Homer Dupuy and Paul Gelpi, assisted by every member of the Society, gave a concert for the "Benefit of the Orleans Parish Medical Society Library Fund" at the Athenaeum, January 27, 1917. Over $5000.00 was realized from the program and the entertainment, and after paying pressing debts, the bonded indebtedness was reduced by $3300.00. There were still outstanding bonds to the value of $16,500.00.

Shortly afterwards, during the administration of Dr. Bernadas, and greatly through his efforts, the site was sold to the Elks' Club for $50,000.00.

Time does not permit me to relate some of the most important episodes in the history of the Society; but mention must be made of these periods of dire calamity, when uncertainty, despair and fear hung as a pall over a proud city. Who more than the members of this Society realized the seriousness of the situation and the futility of human efforts to repel the unknown and invisible attacks of the insidious enemy? Yet grave dangers lurked and menaced the very existence of their patients, friends and loved ones, the destruction of the commerce of their city was imminent, and communication with the outside world was barred by the yellow flag and the unrelenting watch of the sentinel. With despair they would assemble to offer suggestions and to discuss ways and means by which the plagues could be eradicated.

A volume could be written on these symposiums, which are examplications of the stupendous progress of preventive medicine in the recent pass. In these fifty years of our existence, the era of the greatest medical advancement in the annals of mankind, the Orleans Parish Medical Society has always kept pace with the march of progress.

This Society is the repertory of the tradition, lore, culture and learning of a noble profession. It is still in its early infancy, but its future is assured, because of the stability of its foundation, built, as it is, on the rock of experience, adversity and service to suffering humanity. Its permanency may be assailed at just one point. Bearing on this subject, and warning of its dangers, our well-beloved John Archinard, President for the year 1907, said:

"In my inaugural address, I inveighed against cliques, or combines that jeopardize the integrity and welfare of our society, in order to promote selfish ends, further private interest, satisfy bounding ambition, or wreak vengeance for being outstripped in honorable competition for control of the affairs of the organization, and I deem it proper at the closure of tenure of office to again raise my voice, in no uncertain tones, against the menace. Believe me, gentlemen, I can truthfully say of our Society, equipped as it is, as Macauley did of America: 'If she be destroyed, it will not be by any power without, it will be by the Huns within.'"

Medical-Electrical-Pharmaceutical Exposition in Mexico City.—Mr. Ignacio Ocampo y A. publisher of the Journal of the Mexican Medical Association and the Bulletin of the Mexican Society of Radiology, and Mr. Frederick E. Storm, colaborator of the Mexican Medical Directory and representative in Mexico of the American Medical Association, are organizing a Medical-Electrical-Pharmaceutical Exposition and Convention, which will take place October next in Mexico City. The Exposition will be held under the auspices of the President of the Republic, General Plutarco Elias Calles; the Secretary of Education, the Mexican Medical Association, the Society of Electro-Radiology, the National University, The Health Department, etc., and great efforts are being made by the organizers to make this an attractive and popular event, not only to the medical and pharmaceutical profession, but also to the public in general.

PERSONAL RECOLLECTIONS.

G. FARRAR PATTON, M. D.,

NEW ORLEANS.

"My very noble and approved good masters." To paraphrase further the apology of Othello before the Senate of Venice: That our honored, learned and eloquent brother, Dr. Matas, is absent, is alas, most true. True, also, that by the gracious invitation of our Committee, I am here to speak in his place, however unworthy of that high honor. Under the circumstances, it would be vain on my part to attempt the role of actually representing Dr. Matas, but as it is understood to be his wish that I should review conditions existing at the time the old Medical and Surgical Association was merged into this Society, I shall endeavor, briefly, to set the facts of the case before you.

At the time that this Society was organized, as described by Dr. Fossier, the New Oreans Medical and Surgical Association was a vigorous and earnest body of men, and so far as concerns this present generation, was the pioneer organization of medical men in this city. It was but a small body of men, probably less than one hundred, but a body more enthusiastically devoted to the objects of their association I have never known. There was a meeting every Saturday night and there was always something doing.

A few years after this Society was formed, it began to be realized that there was seemingly no need for two distinct medical organizations in New Orleans, both carried on by practically the same men, and with the growth of that sentiment negotiations were set on foot to bring about a merging of the two into one strong and representative Society. A suitable letter was circulated asking for an expression of individual opinion on the subject, and as there appeared to be a strong sentiment favoring such a merger, a joint meeting was called to consider the question. Among other reasons for such action was the de-

sire, strongly advocated by Dr. Chaillé, to have the profession in New Orleans organized on strictly ethical lines, the Parish Society to be a unit in the State Medical Association, and our State to become thereby definitely affiliated with the growing American Medical Association. It is to be noted here that the old Medical and Surgical Association, however admirable and devoted, pointedly disavowed any obligation to the accepted Code of Ethics, though I do not remember any non-ethical man being admitted to membership.

Altogether, it is not surprising that in the old Association there was a small group of men, a sort of "Old Guard," who were bitterly opposed to the proposed coalition, which meant the death of their beloved Society. Among those was a certain prominent physician who had seemingly ignored the circular letter and who came to the joint meeting with war in his eyes, where, after being called to order four or five times because he persisted in talking, he finally rose and shook the dust off his feet, declaring he would never darken the doors again.

Despite all opposition, spoken or unspoken, the merger was duly carried through, with the results that we are here tonight to celebrate the Golden Jubilee of our own beloved Society, with its more than five hundred members and every prospect of a glorious future.

But if you will pardon a slight digression in memory of the old Association, I shall briefly tell you of one of its charming customs. There used to be an annual dinner, somewhere in mid-winter, to which the members were privileged to bring a guest, or more than one if willing to pay for them. We all sat at a long table, and the invited guests were expected to contribute to the general entertainment. There was a toastmaster who had kindly told those to be called upon the nature of the sentiment to which each would be asked to respond. This gave a certain zest of expectation to the atmosphere.

On one such occasion we had with us the jovial Rabbi Leucht, who possessed, as those of you who knew him will remember, a keen sense of humor. When he rose to respond to the call of the toast-master, he looked all around the room and then solemnly said: "Mr. Chairman, I certainly feel lonesome at this festive board. I find that I am the only preacher here. My friend, Dr. Loeber, who invited me, has as you know, a large Jewish practice, and I quite expected that for like reasons every other doctor would bring his pet preacher, but I look in vain for another in this room, so that I find myself stranded—marooned on an island of doctors."

But the most memorable instance of that kind was the presence on another occasion of a Colonel Glenn, a Texas Confederate colonel, who, in some unexplained way, had secured the appointment of Superintendent of Construction in the Custom House. Dr. Wm. H. Watkins, Chairman at the banquet, had invited the colonel, and when he rose to speak respectful silence was accorded him. He began by calling the waiter, whom he told, pointing to two caraffes of water, "Waiter, remove that objectionable liquid." As that order was being obeyed, he began to place in a semicircle before him all the partly emptied wine glasses in reach. Still dead silence. At length, he drew from his pocket his card of invitation and addressing the Chairman, said: "Mr. Chairman and Gentlemen: Now that I have rid myself of the sight of that objectionable liquid, for which I have never had any use as drinking material, and have in front of me a cordon of that other liquid upon which I have learned to rely, I feel emboldened to address this meeting. When I received this card of invitation from my friend Watkins, I was greatly pleased, because I felt sure that you doctors, however much you give nasty doses to other people, know how to provide good food and drink for yourselves. But when I discovered, here in the lower left hand corner of the card certain mysterious, cabalistic letters, R.S.V.P.,

I was troubled with doubt as to whether they might no imply some condition with which I could not comply. In this dilemma I went to good old Aleck Finlay, who knows all the doctors and their ways, and asked him to tell me, if he could, just what those letters meant. Well, he laughed at me and said, 'Why don't you understand? R. S. V. P., coming after Watkins' name means *Royal Stag of the Victualizing Party.*'

"Gentlemen, let me tell you further, that all my life, up to tonight, I have stood in fear and dread of your profession. In earliest childhood the mention of a doctor always inspired nameless fear, while the sight of one was almost enough to throw me into a fit, but now that I have met you, individually and collectively under the benign influence of a state of partial intoxication, I know you for men and brothers, and I am not afraid of you any more." Needless to say, Col. Glenn was solid for many future invitations.

The Orleans Parish Medical Society did not immediately take up the pleasant custom of having an annual dinner, but we have always had an annual orator, preferably some distinguished man from outside our ranks, a selection that occasionally gave cause for serious debate. One year, when the time came to nominate an orator, Dr. Austin, a venerable member, proposed the name of a fine pulpit orator who was then rector of Trinity Episcopal Church, whose reputation the doctor declared was known from Maine to Florida. But Dr. Chaillé raised the objection that it would be but a poor compliment to invite such a man to come and address a small gathering, such as our annual meeting. To this Dr. Austin replied that we could engage a suitable hall and insure an audience by extending a general invitation to our friends.

Dr. Chaillé still objected, reminding us that on a previous occasion he had secured as an orator the greatest lawyer and the best orator in the State, Hon. Thos. J. Semmes, and that at the meeting, held in the Grunewald Hall, less than seventy-five people had been present.

Dr. Austin then withdrew his nomination and on the suggestion that an orator be chosen from our membership, the name of Dr. T. S. Dabney, a bright and capable man, was put in nomination. But here Dr. Dabney rose to object, declaring that, although his reputation as an orator had probably not reached as far as Kenner, his sense of self-respect would hardly permit him to accept that nomination after all that had been said on the subject. However, he was prevailed upon to accept, but never delivered the address because he was later appointed a member of the Board of Examiners of the U. S. Pension Board and moved to Washington, so that it fell to my lot to speak in his place, just as I am doing here tonight.

Really, if it were not for the moral and spiritual uplift of which I am conscious in responding to the flattering invitation of the Committee, I might be tempted to feel that my presence on this platform, instead of in the back row of seats, may be in accordance with the prevailing idea that in an emergency, any old doctor will do.

In the course of that address, I expressed the wish and the hope as to an ideal future for this Society that it might by its influence become "a column of cloud by day and a pillar of fire by night" to guide our people struggling to escape from the wilderness of disease, while awaiting the coming of the Moses and the Aaron who were destined to lead us out of captivity; to rescue us and our children from the bondage of pestilence. with its heritage of untimely death. That hope has not been in vain. Those men have come, and one by one we have been able to vanquish certain deadly diseases which so long held the human race in helpless subjection.

I have not many years to live, so that I may not hope to witness the future triumphs of medical science, but I shall be content to "depart in peace, now that mine eyes have beheld the glory of the Lord" as

revealed in medical progress. Am I conscious of anything like stage-fright in thus addressing such an audience? Certainly not! In speaking to you this evening I simply feel that I am talking to a group of younger brothers and sisters, and when I look into your earnest, friendly faces, my heart goes out to you in fraternal affection, mingled with a glow of pride that I, too, am a soldier in your ranks, if perchance, only a corporal.

Speaking for myself, I will say that when this Society shall again acquire its own domicile, if still living, I should like to see, displayed upon its walls in letters of gold the Psalmist's words: *Ecce quam bonum, quamque jucundum, habitare fratres in unum.*† "Behold how good and pleasant it is for brothers to dwell together in unity." Surely a fitting motto for this Society, and one that all should seriously take to heart. To men and women like those gathered here tonight there can be no more inspiring thought than the realization of what is meant by those words of wisdom that have come down to us unchanged through the passing of centuries, assuring those thus pledged to our sacred calling that for our own sakes and for the success of our work, it is "Good and pleasant for brothers to dwell together in unity."

†133 Psalm.

World Child-Labor Standards.—Eighteen countries have ratified the draft convention adopted by the International Labor Office and submitted to the member nations of the League of Nations, which places the minimum age for entrance into industry at 14 years, and 20 countries have ratified that prohibiting night work of minors under 18 in industry, with certain exceptions for those over 16.

THE RELATION OF THE PHYSICIAN TO THE PUBLIC.

T. SEMMES WALMSLEY,

NEW ORLEANS.

It is indeed a pleasure to be asked to come to this meeting, because since 1920 it has been my privilege to become acquainted with a great number of medical men of the State, and particularly of the City of New Orleans. I feel that I have become part and parcel of the medical profession during that time. But it is indeed a greater pleasure to come on such a joyous occasion and to see the improvement that has been made by this Society which now has over five hundred members. You have a right to be proud of it.

There is one thing that struck me most forcibly in listening to the addresses tonight, and that was that this Society has recognized the obligation that it owes to the public. It is a great thing for a doctor to be able to say that he is able to cure the sick, to be able to alleviate pain and suffering. But is that all that that doctor owes to the community? Has he filled his entire obligation when he has cured the sick upon whom he has to call? According to my views and concepts of a doctor's obligation, and according to my views of the obligation of the State and Parish Medical Society, they have a greater obligation to perform. The State, the public at large have placed in their hands the administration of the Medical Practice Act. The State, the public at large, have entrusted to them, not only the administration of that Act, but it looks to the medical profession to protect the public from imposters, from quacks, from people of all kinds who would prey upon the credulity of the public in an effort to obtain from them a certain amount of cash. How can the public know those things that are legitimate cures? How can the public believe those things that we read in the Press as miraculous cures, wonderful operations performed? We must rely entirely upon the advice and the assistance of physicians

and surgeons to tell the truth to the public and to keep them fully informed of developments—not only is that your obligation, but it is likewise your obligation to see that those men who are designated by your Society to carry out the purposes of the Medical Practice Act are kept fully informed of things that come to your notice. It might well be that you would feel that a doctor who might have given too much morphin, or who might prescribe too much cocaine should not be reported to them, but it is my idea of your duty as doctors when occasions of that kind come to your notice to report it to the State Board of Medical Examiners to take proper action. It might not conform with your ideas of ethics. It might be that you would believe it to be your duty not to divulge those things that come to your attention what another doctor has done, but you owe a greater obligation to the community, State and nation to at least have that instance investigated by the proper parties, who have been designated by your association and appointed by the Governor to make those investigations. You must remember that the public has placed a halo about you, that they have given you untold protection, that they are permitting you experiments upon the lives of the people of the State, and they in turn have the right to demand of you that same protection from the quacks and those people who should not be administering to the public. You might well say: What is the practice of medicine? All seem to understand it, but the Legislature has defined what is the practice of medicine and they have gone much further than what the average man can imagine.

So you see there is practically nothing that you can do, even the mere laying of your hands on a person to try and straighten out the end of your little finger, which is not practically the practice of medicine. Since you have had this entire—well you might say laying of your hands upon the public of the State—made sacred unto you, there is the obligation to safeguard the public at large from all persons who try to do things that do not come within the terms of this Act.

One of the most striking things that I have heard in my life came to my notice today, and the remedy to my mind will have to come from the physicians. We were discussing the question of the new Jail and Parish Prison in the Council Chamber and Dr. Hart was asked the question if prohibition did not provide more violators for the Federal prisons than any other class of people. He said it is remarkable to know that this is not the case, but that sixty per cent of the inmates of the Federal penitentiary today are there for violation of the Harrison Narcotic Act. Sixty per cent are, therefore, drug addicts or those selling or dealing in drugs. It was startling to know. It was astounding to every member of the Council. At the time I heard it I made mental reservation to mention it tonight. The lawmakers cannot find a solution apparently for this problem; that will have to come from the medical men. You will have to make the decision as to what the remedy shall be. The lawmakers are willing to recognize that they have failed so far in dealing with this problem, but it is up to you to devote your time and study to lifting this dreadful curse from this nation. To my mind, unless this curse is taken away from this country, it will not be long before its ravages will be felt in every home. It is hard to really realize the purport of a statement of that sort, but when you begin to realize how great the spread has been in this country in the last years and when you begin to realize that sixty per cent of the Federal prisoners are there for that reason, you must realize there is no greater problem confronting the medical profession than working out the solution of this problem for the public.

The public does not expect the medical profession to run around seeking various people who are violating this Act, but it does expect that when these things come to

your attention thot you will do your part. I want to say that the medical profession as a whole has not since 1920 taken interest. It is an obligation that is rightfully theirs. You have had a small coterie of men bearing the brunt of your work. I say that advisedly. I have attended every session of the Legislature since 1920 and I have seen practically the same men every year defending attacks made upon your Medical Practice Act. I have heard men say that merely by manipulation of the spine they could cure diphtheria, scarlet fever, syphilis, and cancer. Mereby by the manipulation of the spine they could be done away with. It is ridiculous to think that these things can be done, but it would not be so ridiculous if you would stand up there and hear these people, just as earnest apparently, just as sincere as we are in this room at this time, believing these very doctrines. It would not make very much difference if someone got on the corner of Canal and Royal and preached doctrines of that kind, but when you see your legislators believing these things and advocating these practices then I say that you have the obligation upon everyone of you to not leave that battle to a handful of men to carry on; and that is what has been done. You cannot expect the State Board of Medical Examiners to take any part as the State Board of Medical Examiners in that fight. They are placed there by the law to administer the law. The duty of defending that law rests upon the medical practitioners and rests upon the Medical Society to see that only trained men, capable of understanding the ravages of diseases now prevalent, are permitted to deal with the public. And you leave that fight up to a Committee of one or two. It is not fair to the mere handful who go up there time and time again, That obligation is yours. I remember well in 1922 when I was in the Attorney General's office, that there were only four men who paid any attention to the attacks being made. There, later, got to be as many as twelve. But now I want to tell you that unless all of you make a determined effort to stamp out once and for all the attacks that are being made, that you can expect quackery, fakery of every kind. even the practice of attempting to relieve undr the cover of religion—I am not talking of any real religion, as I pay only respect to some of them, but I say under cover of religion, for there are people who are ready to rush to Louisiana believing it a Mecca. I believe the time has come when you must maintain your position now or you will not be able to resist in future years onslaughts from other States

As a parting word, I wish to impress upon you, the Society can begin in a no more useful way, nor in a better way than by advocating a minimum requirement for medical proctice throughout the United States, by having Congress adopt a law requiring a minimum for physicians throughout the entire United States. The requirements in some of the other States are lower than in this State. Unless you do this, you will rue it and the public will pay the price for having reposed this confidence in you.

A STUDY OF TUBERCULOUS ADENITIS CONFINED TO THE INGUINAL LYMPH GLANDS.

EDWARD McCORMAC, M. D.†

NEW ORLEANS.

Tuberculosis not infrequently attacks the lymphatic system. The greater percentage of occurrences are seen, however, in the cervical glands. While it is not rare to see an involvement of the inguinal lymph g'ands, it is the opinion of the writer that the number of such cases is over-estimated. This source of error is to be found in the fact that a routine microscopic section is not done on all glands removed. In searching for literature upon this subject, directly, I was unsuccessful; not a single publication was obtainable. Text-books of pathology make mention of the condition being rare and say no more.

†From the Urological Department, Tulane Medical School of Louisiana.

There have been some unusual and interesting malignant conditions of the inguinal glands reported. The prevalence of adentitis as a secondary infection resulting from penile sores and uncleanliness is thoroughly understood. The type of case most interesting and presenting the hardest problem for diagnosis, is that in which the glands enlarge slowly, are sometimes slightly suggestive of fluctuation but fail to resolve and present varying degrees of pain.

The cases herein reported are all taken from the wards in the Charity Hospital. A series of 2189 case histories of surgical tuberculosis have been reviewed. This includes all types of tuberculosis requiring drainage or removal of the involved parts. A fair number of cases, probably forty or fifty, were diagnosed clinically as tuberculosis. These were not included since confirmation of the diagnosis was lacking. Fifty-two cases in which the microscopical report was tuberculosis have been included in the following table. All of these were clean-cut cases with the process involving the inguinal glands. Of these fifty-two, thirty-one were primary in the inguinal glands. Eight cases showed a tuberculous involvement elsewhere, six being in the lung, one being a general adenopathy plus a pulmonary tuberculosis, and one an involvement of the epitrochlear glands. In twelve cases the records failed to mention whether there was any involvement elsewhere or not.

In forty-one cases the condition was unilateral, four bilateral, in six cases unrecorded, and in one no operative procedure was carried out. In the case not operated on, the patient had pulmonary tuberculosis with a general adenopathy and a clinical diagnosis was made of tuberculous inguinal adenitis. In two of this series adenitis developed following trauma.

In twenty of the original fifty-two, the correct diagnosis was made. The remaining thirty-two were diagnosed variously, as suppurative adenitis, inflammatory adenitis, and one case was called malignancy.

In the original series of fifty-two cases, twenty-three were white, eighteen colored, and eleven unrecorded.

There were forty-one males, four females, and in seven the history failed to record the sex.

Twelve were not painful, twenty were painful, ten were slightly painful, and in the remaining ten this symptom was not recorded.

Convalescence in all cases was uneventful. The time in the hospital varied from one to six weeks. In only one case was there a recurrence, and this was after a period of ten months.

The percentage of adenitis being caused from venereal disease, of course, greatly out-numbers that of any other source. This is borne out by the fact that from the years 1906 to 1912, 1312 cases of bubo of venereal origin were operated in the Charity Hospital. The proportion between white and black was very small, 740 being black and 572 being white.

CONCLUSIONS.

1. The number of cases of primary tuberculous inguinal adenitis is distinctly over-estimated.

2. In the so-called cases of idiopathic inguinal adenitis, the possibility of primary tuberculosis should always be considered.

3. In cases of adenitis where the glands fail to suppurate or resolve, it is not unwise to consider an early adenectomy because in a certain percentage of cases we are here dealing with an incipient tuberculous condition.

4. After the removal of the tuberculous glands the convalescence can be greatly aided by the application of radium following a complete adenectomy.

History Number	Pre-operative Diagnosis	TB Elsewhere	Convalescence Recurrence	Post-op. Diag. Microscop.	Pain	Age	Sex	Side	Color
837	.....	.....	Uneventful 16 days	TB adenitis	Slight	16	Male	Unilateral	Colored
686	.....	No	Operated 7/4-8/2 Disch. 8/29	TB adenitis	.....	20	Male	Unilateral	Colored
574	.....	.....	Uneventful one month	TB adenitis	Present	27	Male	Unilateral	White
548	.....	.....	Uneventful five weeks	TB adenitis	None	38	Male	Unilateral	White
250	.....	.....	Uneventful three weeks	TB adenitis	Present	19	Male	Unilateral	White
260	.....	.....	Uneventful 25 days	TB adenitis	Present	68	Male	Unilateral	Colored
261	.....	No	Recovered Op. 10 mos. previous	TB adenitis	.....	23	Male	Unilateral	White
262	.....	.....	Uneventful one month	TB adenitis	Slight	27	Male	Unilateral	White
286	.....	.....	Uneventful six weeks	TB adenitis	Present	17	Male	Unilateral	White
303	Inguinal adenitis.....	No	Uneventful three weeks	TB adenitis	Present	26	Male	Unilateral	White
322	.....	Pulmonary	Uneventful three weeks	TB adenitis	Present	24	Male	Unilateral	Colored
1102	Inguinal adenitis.....	.....	.....	TB adenitis	Present	24	Male	Unilateral	White
1116	Inguinal adenitis.....	.....	Uneventful six weeks	TB adenitis	.....	28	Male	Bilateral	White
1117	TB ing. adenitis (Sup.).....	.....	Uneventful three weeks	TB adenitis	.....	23	Female	Unilateral	Colored
1120	Inguinal adenitis.....	No	Uneventful 25 days	TB adenitis	No	30	Male	Blow in groin shortly before Unilateral	White
1151	TB adenitis.....	No	Uneventful seven weeks	TB adenitis	No	38	Male	Unilateral	Colored
1154	Sup. Inguinal adenitis.....	.....	Uneventful 16 days	TB adenitis	.....	22	Male	Bilateral	Colored
1164	Sup. Inguinal adenitis	No	Uneventful two weeks	Glands incised 4 mo nths befo re following TB adenitis	Slight	36	Male	Unilateral	soft sore White
1169	Sup. Inguinal adenitis	No	Uneventful three weeks	TB adenitis	Present	48	Male	Unilateral	White
1013	Sup. TB adenitis.....	Pulmonary	Uneventful 17 days	TB adenitis	.....	28	Male	Unilateral	Colored
1038	TB adenitis.....	.....	Uneventful 24 days	TB adenitis	Slight	18	Male	Unilateral	White
1047	Malignant adenitis.....	No	Uneventful six weeks	TB adenitis	Present	29	Male	Unilateral	White

History Number	Pre-operative Diagnosis	TB Elsewhere	Convalescence Recurrence	Post-op. Diag. Microscop.	Pain	Age	Sex	Side	Color
946	Simple adenitis	No	Uneventful eight days	TB adenitis	Present	24	Male	Unilateral	White
963	Sup. inguinal adenitis	No	Uneventful one month	TB adenitis		24	Male	Unilateral	Colored
B6556 (1307)	Inguinal adenitis	No	Uneventful 16 days	TB adenitis	No	33	Male	Unilateral	Colored
C1610 (1320)	Inguinal adenitis	No	Uneventful two weeks	TB adenitis	Present				
C2483 (1323)	TB. inguinal adenitis		Uneventful two weeks	TB adenitis		17	Male	Unilateral	Colored
C2760 (1324)	Bilat. ing. adenitis	No	Uneventful nine days	TB adenitis		32	Male	Unilateral	Colored
C2526 (1328)	TB inguinal adenitis	No	Uneventful two weeks	TB adenitis	Present	47	Male	Unilateral	White
1337	Inguinal adenitis	No	Uneventful 10 days	TB adenitis	Present	27	Male	Unilateral	White
1360	Inguinal adenitis	No	Uneventful two weeks	TB adenitis	None	19	Male	Unilateral	Colored
1380	TB inguinal adenitis	No	Uneventful 18 days	TB adenitis	Present	28	Male	Uni. op. for hernia and gland removed TB	White
1196	Inguinal adenitis (Sup)	No	Uneventful one month	TB adenitis	Present	20	Male	Unilateral	
1211	Inguinal adenitis	Pulmonary ?	Uneventful 19 days	TB adenitis	None	30	Male	Unilateral	
1213	Inguinal adenitis	No	Uneventful 4 weeks	TB adenitis	Slight	25	Male	Unilateral	
1229	Inguinal adenitis	No	Uneventful 11 days	TB adenitis	Present	40	Female	Unilateral	
1244	Inguinal adenitis	No	Uneventful 20 days	TB adenitis	None	36	Male	Unilateral	White
1257	Inguinal adenitis (Sup)	No	Uneventful 9 days	TB adenitis		26	Male	Unilateral	White
B09950	Sup. inguinal adenitis	No	Uneventful one week	TB adenitis	Slight				
C03867	Sup. inguinal adenitis	No	Uneventful three weeks	Operated for TB adenitis	right in Present	g. he	rnia 6 mo	s. previous	
B03821	TB adenitis	Pulmonary and gen. adenitis	Discharged	TB adenitis	None			No operation	
A161 (1846)	TB	No	Uneventful 22 days	TB adenitis	None	47	Male	Uni. following injury to toe 6 weeks previous	Colored
1553	TB inguinal adenitis	Epitroch. TB adenitis	Uneventful six weeks	TB adenitis	None	42	Female	Bilat. and right elbow	Colored

History Number	Pre-operative Diagnosis	TB Elsewhere	Convalescence Recurrence	Post-op. Diag. Microscop.	Pain	Age	Sex	Side	Color
1561	Inguinal adenitis	Pulmonary	Uneventful two weeks	TB adenitis		20	Male	Unilateral	White
1407	Chancroid adenitis	No	Uneventful one week	TB adenitis	Present	20	Male	Unilateral	Colored
1567	TB inguinal adenitis	No	Uneventful three weeks	TB adenitis	Slight				
1412	Inflam. ing. adenitis	Pulmonary ?	Uneventful 12 days	TB adenitis	Tender				
1423	TB inguinal adenitis	Pulmonary ?	Uneventful 8 days	TB adenitis		21	Male	Bilateral	White
E2057 (1460)	Inguinal adenitis	No	Uneventful two weeks	TB adenitis					
B4840 (1297)	Sup. ing. adenitis	No	Uneventful four weeks	TB adenitis	Present	30	Male	Unilateral	Colored
1300	Inguinal adenitis	No	Uneventful three weeks	TB adenitis	Present	35	Male	Unilateral	White
1305	Sup. ing. adenitis	No	Uneventful two weeks	TB adenitis	Present	49	Female	Unilateral	Colored

CONSTITUTIONAL PSYCHOPATHIC INFERIORITY.*

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"Constitutional inferiority" was introduced into American psychiatric terminology by Adolf Meyer in 1904. In 1913 M. J. Karpas described "psychic constitutional inferiority" as the foundation of most, if not all, of the psychoses. Three years later he used the term "constitutional inferiority" and his earlier views were subjected to alteration.

The terms constitutional psychopathic inferiority, constitutional inferiority, constitutional psycopath, constitutional psychopathic state, and psychopathic personality are usually used synonymously. An attempt to differentiate between constitutional psychopathic state and constitutional inferiority was made by Visher, who believes that in the former there is usually no history of marked industrial inefficiency or anti-social conduct, and what gross maladaptation is present does not extend back to early life. Whether or not this differentiation is quite valid is questionable.

Human behavior can only be effectively studied from the viewpoint that it is fundamentally a problem of mind and character in relation to environment. Disordered behavior, then, must be chiefly a matter of disordered mind.

In constitutional psychopathic inferiority we are dealing with a disorder of the constitution of the personality. It is not a matter of disease engrafted in a previously healthy individual, but rather with the gradual malformation of a character into an abnormal balancing of feelings in relation to behavior.

The difficulties are to be found in malformations of character, caused by an unusual influence of emotional factors that have in some way failed to find adequate control through inhibitions, or to respond to counter-balances that we consider as es-

*Read before the Bi-Parish (E. and W. Feliciana) Medical Society, Jackson, La., October 12, 1927.

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sential for normal life. The effects of these are to produce a class of individuals, who are not insane in a sense, but yet are not normal. Individuals of this class find it difficult to adjust themselves to family life and social relationships. These lead them to conflicts with laws, and they become social failures that must be given special consideration. While the group of constitutional psychopathic inferiorities has characteristic features that are common to all, some observers believe that there are certain manifestations, which stand out with such prominence, as to give them special significance. In some the abnormal qualities show as emotional instability with a tendency to outbursts of excitement, and disordered behavior that occurs under even trivial annoyances. In others the individual is weak in wil land unable to adhere to any sustained plans, and is easily led into acts that bring him into social difficulties. In still another type the abnormalities lie in an instability of character, and a marked prominence of the imagination, which leads to a pathologic type of lying and acts of deceit.

Kraepelin classifies constitutional psychopathic inferiority under seven headings: (a) the excitable; (b) the inadequate; (c) the impulsive; (d) the eccentric; (e) the pathologic liars and swindlers; (f) the antisocial; (g) the quarrelsome.

His description of these types shows that certain principal features are repeated sufficiently frequently to allow classification into types, but it is to be remembered that psychopathy is a uniform conception, only in that it embraces psychic deviations from the normal that are not limited in any other way, and it is best not to say that psychopaths have this or that quality, for according to the nature of the condition they can not have any definite limitations and there are no symptoms which are common to all. Every individual is a rule unto himself. The manifestations show an infinite shading of variety, transition and combination. In most cases the affective peculiarities are in the foreground. If there is average or great intelligence, it has little regulating influence on the individual's actions.

In the following table, J. H. Huddleson gives an interesting and valuable classification, with the incidence rates of twenty-one important characteristics, of constitutional psychopathic inferiority (see table).

In a number of instances I have used this table in checking up manifestations in cases of constitutional psychopathic inferiority, and have been pleased with the results obtained. Ordinarily, the constitutional psychopath is easily differentiated from the normal, but to group all individuals of psychopathic constitution in specific types is neither easy nor satisfactory. Psychopathic traits occur in such intermixtures in varying prominence of this or that abnormality that the feasibility of too rigid and extensive classifying becomes doubtful. While it is convenient for those dealing with problems of behavior in social relations it presents clinical and psychologic difficulties. The psychopathic personality is a serious disturbing influence in the home and community, and his frequent conflicts with the law show his incapacity to adjust himself adequately to the regulations under which we all must live, making it necessary that his constitutional weakness be appreciated by those who administer laws or deal with problems of behavior.

To what degree of intensity one wishes to designate the psychopath as sick, is arbitrary. From what degree one no longer wishes to consider him as a psychopath, but as insane, is discretionary.

Bleuler says "many psychopaths are only in the social sense "not insane"; before the forum of natural science, they suffer from the same anomalies as many insane only in a slighter degree; they are paranoid, schizoid, latent epileptics, cyclothymic, etc."

As the many anomalies of character are normal or usual to the individual they can not properly be said to constitute a psychosis, but as they lead to inefficient types of

Classes of Characteristics	Characteristics	INCIDENCE in Number of Cases	INCIDENCE in Each 100 Cases
Physical manifestations:	a Anatomic stigmas	40	8
	*b Sexual anomalies	21	4
	c Enuresis (after age 5)	11	2
	d Onychophagia (nail biting)	12	2.5
	e Stuttering and stammering	46	9
Addictions:	f Drug addiction	8	1.5
	g Alcohol addiction	50	10
	h Tobacco addiction	11	2
Traits suggesting manic-depressive make-up:	i Emotional instability	318	63.5
Traits suggesting manic and paranoid tendencies:	j Grandiosity and excessive self-esteem	102	20.5
Traits suggesting paranoid trend:	*k Paranoid personality	90	18
Traits suggesting schizophrenic make-up:	*l Metatopomania (tendency to wander from place to place)	97	19.5
	m Polypraxia (tendency to go from place of employment or job to another)	240	48
	n Working beneath mental capacity	9	2
Traits suggesting mental deficiency:	*o Poor cooperation and refractoriness	179	36
	*p Unreliability (other than q and r)	157	31.5
	*q Conscious exaggeration of symptoms	207	41.5
Conduct disorders:	*r Malingering (charged as such)	28	5.5
	Malingering suspected	11	2
	*s Truancy and A W O L tendency	74	15
	*t Trouble making	95	19
	*u All conduct disorders	250	50

One finding of a given trait conditions a single entry, except for traits marked with the asterisk. The counting of a trait in one of these starred groups may be duplicated in another starred group; that is, such groups overlap.

Data in above table obtained in a study of five hundred cases.

adjustment of the individual to his environment, and as persons exhibiting these peculiarities often become actively disordered, they may be regarded as borderland conditions. The life of the individual is, to use the words of Régis, "one long contradiction between the apparent wealth of means and poverty of results."

It is my belief that, from a practical viewpoint, insanity means social incapacity.

In the treatment of the psychopathic individual, it is important to recognize tendencies and abnormalities as early as possible in the life of the individual, and this is often possible in the earlier years of life or even in infancy, as the "nervous" manifestations of childhood are common traits that stand in intimate relation to the development of a psychopathic character. The physician has special responsibility in this period; he should know how to distinguish abnormal qualities, and be able to instruct parents in methods of dealing intelligently with them.

Whatever is impairing the health of the individual should receive careful attention. Training of the psychopathic child should be directed toward securing simplicity of life, quiet surroundings, and self restraint. The environment should be such as to make

life as free as possible from all that produces unusual stimulation. Early interest in sex matters should be guarded against as these always have relations that bring to the individual excessive emotional stresses, and are powerful influences in shaping character.

In the adult, effort must be directed toward securing as good physical health as possible. Environment should be chosen with an appreciation of the limited and special capacities for adjustments that are characteristic of the psychopath. The individual must be taught to exercise self control, and to govern his life with an intelligent understanding of those influences that he cannot adequately handle. These principles are theoretical, and too often bring no improvement, and the individual continues a social menace. In these instances, it is best for the protection of society that the psychopath, who possesses criminal tendencies, be confined in institutions for the mentally abnormal, reformatories or prisons. Judges should appreciate the limited capacities that the psychopathic criminal has for controlling his behavior and that psychopaths form a large proportion of repeated offenders. Determination of penalties should be largely determined by the mental constitution of the offender, which is often such as to make long periods of confinement advisable.

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THE ASSOCIATION OF QUINIDIN SULPHATE AND DIGITALIS IN AURICULAR FIBRILLATION.

HENRY BAYON, M. D.,

NEW ORLEANS.

The introduction of quinidin in the treatment of cardiac disease marks a comparatively recent innovation in therapeutics, rivalling in its effects the many spectacular occurrances of modern medicine, holding attention, commanding inquiry, and unfortunately spurring on to reckless exaggeration many who, eager to go farther forwards, are lured into the pitfalls of dangerous experiment.

The history of quinidin and of quinin, its sister alkaloid, is not lacking in interest, very much like that of their physiologic antithesis, digitalis; all at one time were the property of empiricism. It is common knowledge that digitalis, previous to the careful attention given to it by Withering in 1874, was the principal ingredient of a mixture used by an old woman healer who was said to have restored to health a number of cases of dropsy. On the other hand it seems that quinin, for a great many years past, has been employed in the treatment of heart disease. A number of physicians of the old school favored the combination of the two drugs: Weckenbach[18] recalls that Ludwig Traub habitually combined them so as to avoid the disagreeable effects of digitalis on the stomach. Oppalzer reckoned quinin, rest and digitalis as our three most powerful therapeutic resources in diseases of the heart; Stokvis points to the fact that quinin, owing to its damping of an excessive digitalis action, may in many respects be called an antagonist to digitalis; Pil always gave digitalis and quinin together because he found that the mixture had a better effect on his patients than digitalis alone. Huchard favored quinin in the treatment of paroxys-

*Read before the Orleans Parish Medical Society, December 12, 1917.

mal tachycardia and other arrythmias, either alone or associated with digitalis.

It is surprising that during a period when so little was known regarding the pharmacology of quinin and digitalis, and when the chief guiding spirit in the choice of drugs was sound and acurate observation, in a large measure, unaided by extensive experimental work, so much of the value and interdependence of the two drugs should have been recognized: digitalis, as we now know by its action on the vagus, stimulating cardiac inhibition, and quinin depressing it. Cheinisse[1] quotes the experiments of Stokvis on the isolated heart of the frog: in 1905, that investigator demonstrated that digitalis increases the number and intensity of the pulsations, lengthening systole and exciting the heart, whereas quinin diminishes both the number and force of the contractions and shortens systole. He affirmed that quinin favored the action of digitalis and that the combination of both drugs yielded therapeutic results which were far more satisfactory than those obtained by the use of digitalis alone. Others using a combination of both drugs found that the depressing action of quinin was prevented and that the exciting effect of digitalis was tempered; the results were an improvement in the cardiac activity.

Pezzi and Clerc[14] in France, report that dogs thoroughly quininized and receiving massive doses of crystallized digitalein Nativelle failed to develop toxic symptoms. Experimenting on the isolated heart of the frog, Weichman, assistant of Von Romberg in Munich, has demonstrated this antagonism of the two drugs.[14] The experiments consisted in allowing the heart to remain in a solution of quinin until it ceased to beat, the paralysed organ was then immersed in a solution of digitalein which had the effect of restoring it to active contractions.

Similar antagonisms between digitalis and quinin are also observed on the myocardium and on the conducting tissues: On the myocardium digitalis shortens the refractory period of the auricle, quinidin lengthens it. Digitalis speeds the auricular rate, quinidin slows it, whereas quite the opposite effect is noticed on the ventricle which is slowed by digitalis and speeded by quinidin. The report of T. S. Hart[4] demonstrates the clinical antagonism of the two drugs on the auricular and ventricular musculature by electro-cardiographic tracings of his patients. On the conducting tissues, the action of digitalis is stimulatng, that of quinidin is depressing, as evidenced by the P. R. interval which is shortened by digitalis, and lengthened by quinidin.

Evidence of the physiologic antagonism between digitalis and quinidin, on the heart, both on the isolated myocardium and on the inhibition mechanism, is clearly demonstrated and the observations of old clinicians regarding the advantage of the reciprocal relations of the two drugs on each other receive sanction in the light of modern scientific analysis. It is on this principle that quinidin therapy is founded.

The effect of quinin in overcoming certain heart disturbances was accidentally revealed to Weckenbach,[17] in 1912, by a patient, a man of fifty years of age, who was annoyed by frequent attacks of very troublesome palpitations lasting from two to fourteen days, and who sought medical advice in the hope of securing permanent relief. He boasted of being able to abolish the individual attacks very promptly and as that statement was questioned, he promised to call back the next day with a regular pulse. True to his promise, and much to the surprise of the doctor, on the following day the pronounced arrythmia had completely disappeared; the patient had taken quinin, which, in localities where malaria was prevalent, enjoyed universal favor throughout the whole range of disease. He had found complete relief from his cardiac distress twenty to twenty-five minutes after taking the drug and after a little experimenting, had dis-

covered that one gram would invariably put an end to the attack. Weckenbach was so impressed that he determined to try quinin in auricular fibrillation and in other conditions of hyperactivity of the heart, such as hyperthyroidism and exophthlamic goiter, in 0.5 to 0.8 gram doses. In the latter conditions the results were fairly gratifying, but in auricular fibrillation he had little or no success.

It was left to Von Frey, in experimenting with other alkaloids of cinchona, to discover the much more effective and remarkable effects of quinidin especially in auricular fibrillation, the first publication of which appeared in 1917. Since that time numerous reports have appeared in nearly all parts of the civilized world with alternate waves of condemnation and exultant approbation.

R. L. Levy[8] gives an excellent sketch of the history of quinidin in which the following facts are recorded: Quinidin was isolated by Heihningen in 1849 from a by-product in the preparation of quinin called chinoidin. Later, Pasteur prepared it in purer form and gave it the name of chinidin. It has also been known subsequently by other chemists as conchinin, cinchotin and beta-chinidin, and used extensively in the treatment of malarial fevers. Wunderlich, in 1856, was the first to use it extensively in malaria, reporting one hundred cases in which he found it fully as serviceable as quinin, giving it preference over quinin in hospital practice because cheaper. The dose was the same as quinin, ranging from 10 to 25 grains. In 1878, Strumpell used it for its antipyritic action in fifty cases of infectious disease. He reports one death, a typhoid patient who by mistake swallowed 4 grams in solution. In 1880, Freidenberger reported two deaths in children with scarlatina, vomiting, collapse, convulsions and death following a few minutes after the last dose. In the same review appears the case of a boy seven and a half years old which is instructive in so far as it demonstrates the toxic effects of quinidin in the presence of marked idiosyncrasy. He received 12 grams in five days; several times, vomiting followed the dose within one hour. On the fifth day edema and on the sixth day general anasarca appeared with diarrhea lasting two days, followed by profuse diuresis and disappearance of anascarca. Four days after discontinuing the drug it was given again for one day on account of rise in temperature with the reappearance of the anasarca, which, as it did on the previous occasion, disappeared promptly after withholding treatment. As Levy observes, even at that time when extensively employed as an antipyretic, undesirable effects were attributed to its use.

Since Von Frey's discovery of the effects of quinidin in auricular fibrillation, the association of digitalis to quinidin in the treatment of that form of arrythmia has almost always been advocated. Differences, however, loom up when methods are considered concerning the relative advantages of simultaneous or alternate use of the two drugs. Preparatory digitalisation, especially when congestive heart failure appears in the case history, either present or not very remote, is without doubt the method of choice as advocated by Frey, and followed by the majority. In France, Cheinisse[2] claims priority in introducing quinidin in the treatment of auricular fibrillation in that country, associating digitalis as a preliminary measure in the presence of heart failure. Clerc and Pezzi, Josue, Lian and Vasquez advocate the same method—Lecompte urges the combination of ouabain and digitalis. Deschamps, still more drastic, advocates digitalis before quinidin, even in the absence of cardiac failure. In the presence of heart failure he leans to ouabain which he combines with digitalis. He cites one case brilliantly relieved by preliminary digitalisation, reenforced by intravenous injection of ouabain. In Germany, Von Romberg, Von Kapt and others adopt the same principles. Others favor the alternate treatment but reverse the order—Von Bergman in Germany, Hewlett and

Sweeney,[5] Hamburger and Priest[3] in America, prefer quinidin at once without previous digitalisation, their objection to digitalis is that the relief from fibrillation is retarded on account of the increase in auricular rate caused by digitalis and that larger doses of quinidin are required. Hamberger and Priest seem to credit digitalis with failure to restore normal rhythm or to cause it to be of short duration. But, as observed by Lewis,[9] who, although admitting this action of digitalis and even that the fall in the auricular rate is sometimes not quite so marked when the heart has been previously digitalised, and indeed may be delayed thereby, claims for it the advantage of reducing the ventricular rate which fibrillation keys at dangerous levels; for this reason he advises the simultaneous use of both drugs, "digitalis controlling the ventricular rate throughout the quinidin reaction".

Preparatory digitalisation before quinidin is now almost universally regarded as essential, especially when dealing with advanced cardiac insufficiency, indeed even in the absence of well established organic disease it seems that the response to quinidin, if perhaps a little delayed, is more satisfactory when digitalis is used as a preparatory measure.

There can be no plausible objection to the combined or alternate use of digitalis and quinidin on the plea of antagonism of the two drugs to each other, any more than to the usual combination of morphia and atropin. The pharmacologic relations of the two combinations are in every way similar and in the light of reason as well as in that of actual observation, this antagonism, far from being harmful is a decided advantage. It would be just as illogical to abstain from atropin in combination with morphia because the former stimulates the respiratory center whereas the latter depresses it, as to object to the association of digitalis to quinidin because digitalis speeds the auricle and slows the ventricle, whereas quinidin does just the contrary. Atropin counters the ill effects of morphin without interfering with its sedative action, just as digitalis protects the heart against the excessive ventricular rate caused by quinidin without any appreciable obstacle to the return of normal rhythm.

The protective influence of quinin against cardiac poisons and conditions inducing auricular fibrillation is well illustrated by the experiments of Pezzi and Clerc[14] who, in 1920, accidentally observed an auricular fibrillation produced spontaneously in a dog after opening its thoracic cavity and pericardium. The object of the experiment was to gauge the toxicity of quinin. The arrythmia had been in progress for forty-five minutes, when the animal was quininized, after which the arrythmia was suddenly followed by normal rhythm. Extending their investigations regarding the effects of quinin in auricular fibrillation they observed that in dogs previously quininized, it was almost impossible to induce the arrythmia by faradisation and when fibrillation was induced, it was ephemeral and always very much less marked than in dogs not previously treated with quinin. The authors claim that these findings confirm those of Hecht and Rothberger in 1919, who reported the uniform reduction of auricular fibrillation in dogs, by the intravenous injection of quinin sulphate. In animals so treated, intense faradisation failed to cause auricular fibrillation. Pezzi and Clerc have also shown that nicotin, which invariably produces auricular fibrillation in dogs, has no such action when the animal has been previously quininized. They have had the same results with barium chlorid which fails to develop immediate fibrillation of the auricle always following in dogs not previously treated with quinin.

DOSAGE.

The dose required to restore normal rhythm is variable, some patients responding to small quantities. In consulting the literature on the subject it is not rare to find a number of cases in which fibrillation has promptly yielded to the trial

dose of 3 grains, usually given to test the patient's susceptibility. When this is found absent 5 to 10 grains, repeated 3 or 4 times a day, is the dose usually recommended; the average dose is 4 to 7 grm. over a period of 5 days. John Hay reports that the average dose recommended by English cardiologists is 5 to 10 grains three times a day, sometimes increased in obstinate cases as far as 3 grams a day. A maintenance dose of 3 to 5 grains once or twice a day after restoration of normal mechanism and continued indefinitely or with short periods of interruption, meets with widespread favor —Lian[10] favors 20 c.gm. four or five times a day, continued for one week following the return of normal mechanism, then he prescribes alternately for 3 weeks, 20 c.gm. of quinidin for 5 days and 1/10 mg. of crystallized digitalein for five following days, completing the treatment by continuing for some time the alternate use of digitalis and quinidin, the patient taking 4 or 5—20 c.gm. doses of quinidin a day during the first five days of each fortnight, followed by 1/10 mg. of crystallized digitalein a day during the first five days of the second week. Sir Thomas Lewis advises 0.2 to 0.4 grms. in divided doses, the allowance being from 1 to 2 grms. a day. Some have carried the dose to impressionistic heights, apparently with no untoward results. Drew Luten[11] reports a refractory patient to whom increasing daily doses were given for 16 days; on the 16th day he received 240 gr. in the 24 hours. Nothing happened except nausea and vomiting. A few days afterwards, he was discharged feeling quite well but still fibrillating. Nathan Sidell and Frederick G. Dorwart[15] tabulate a number of cases in which the dose was gradually increased to 75, 90 or even 200 grains in the twenty-four hours. Such huge dosage is interesting from the viewpoint of tolerance which some patients show to quinidin, even in a decidedly advanced stage of decompensation, but it is questionable whether it were not to the patient's better interests to give preference to more conservative dosage or to repeated trials, allowing a period of rest between trials, rather than the display of such therapeutic virtuosity.

The danger of clotting in the fibrillating auricle with the possible result of embolism which attends the restoration of normal rhythm has been at all times the principal objection to quinidin. Mackenzie rejects it on the plea that the danger of fibrillation is not so much the disturbed rhythm, as the exhaustion depending on the increased ventricular rate. He cites a case of auricular fibrillation[13] in a patient of seventy-five years of age who had been fibrillating for fifteen years without interruption and to whom he had refused treatment.

Viko, Marvin and White[16] have reported a number of cases of auricular fibrillation, some treated with quinidin and others without it; the report purporting to prove that there is very little difference, if any, in the danger of embolism following quinidin therapy, compared with other methods of treatment. In a series of 484 cases treated with quinidin, 15 developed embolism and in another group of 200 cases treated without quinidin, embolism occurred in 16 cases.

Robert Levy[8] presents a similar table on a smaller scale: in 50 cases of auricular fibrillation, 25 were treated with digitalis alone and 25 with digitalis and quinidin. Of the 25 cases treated with digitalis alone, five developed embolism and in the group treated with quinidin, only *one* suffered from embolism.

John Hay[25] reports that at a meeting of the Cardaic Club in Edinburg in 1923, the value of quinidin in auricular fibrillation was discussed. It was found that of 286 cases including 265 of auricular fibrillation and 21 of paroxysmal tachycardia and auricular flutter, embolism occurred in 7 cases only.

There seems to be but little doubt that clotting in the auricles occurs more frequently during the prevalence of auricular fibrillation than when the rhythm is nor-

mal. This has been demonstrated by Thomas Lewis[9] who in 76 post-mortem examinations of patients dying of chronic heart disease in which clots were sought, found them in 8 cases out of 23 in which fibrillation was present in the last illness and in only 4 cases out of 53 in which the mechanism had been normal, but it did not appear to him that embolism due to the detachment of these clots was more common when fibrillation existed than when the rhythm was normal. It is evident that when there are clots in the auricles, the danger of embolism is ever present, whatever be the rhythm, normal or abnormal, but it is equally evident that such influences as emotion, effort or various forms of medication are just as potent, if not more so, in causing embolism than the return of a fibrillating auricle to sinus rhythm. In consideration of these facts, with due allowance for some possible doubt concerning the exact cause of death in some cases, and when the natural disposition to embolism in heart disease is considered, it is clear that the danger of embolism following quinidin has been much exaggerated. The evidence condemning quinidin will therefore always remain lame and inconclusive.

Similar deductions apply regarding sudden death not due to embolism. However, normal mechanism is usually followed by so much improvement in cardiac reserve with its attendant restoration to comfortable and useful life, in contrast with the discomfort and invalidism of a quivering heart, that the risk of embolism or even sudden death is amply justified.

However, it is well to remember that compensation is not always restored after the establishment of normal rhythm. Korns[7] reports cases of patients who seemed totally indifferent to fibrillation or normal rhythm, or even to transitional mechanisms. He cites a patient, who, "while maintaining a normal rhythm under the influence of quinidin, suddenly developed auricular flutter with immediate doubling or tripling of the ventricular rate and where other changes occurred repeatedly without notice to the patient or modification of his condition. His subjective and objective signs seemed entirely independent of fibrillation, flutter or normal rhythm". Such cases are exceptional. Regular rhythm, even though it be normal only from the standpoint of ventricular rhythm, regardless of any deviation from sinus rhythm, is in some cases quite an advantage to the patient as is shown in the report of Case No. 1 appearing at the end of this paper.

CONTRA-INDICATIONS

Much disappointment and discredit to both the attendant as well as to quinidin can and should be avoided by the proper selection of cases. Thomas Lewis claims never to have had a case of embolism following quinidin, probably on account of his care in avoiding cases where it is contraindicated. The most important contraindications are: 1. Advanced myocardial insufficiency. 2. Congestive heart failure, especially when associated with multiple valvular disease. 3. Fibrillation of long standing. 4. Idiosyncracy, or when early unpleasant symptoms accompany treatment and persist; in such cases normal mechanism is not likely to occur. 5. Palpitation or distressing increase in ventricular rate is apt to lead to ventricular tachycardia followed by ventricular fibrillation. However, tachycardia, if due to convertion of fibrillation to flutter, is no indication to interrupt the treatment, provided there is no evidence of serious cardiac or circulatory unbalance. 6. A history of previous embolism. 7. Auricular fibrillation occurring with cessation of attacks of angina. 8. No response to digitalis.

INDICATIONS

1. When fibrillation is paroxysmal and occurring in undamaged or slightly damaged hearts, either from myocardial or valve disease. 2. When the cardiac upset dates from the beginning of fibrillation. 3. When fibrillation occurs during the course or follows an acute infection. 4. Lastly, in thyrotoxic cases especially when fibrilla-

tion continues after successful treatment of thyroid conditions, either by surgical or medical treatment.

Without disregarding the importance of discriminating between suitable and unsuitable cases there are numerous instances where every contraindication to quinidin exists, such as badly damaged hearts, congestive heart failure, valvular lesions and fibrillation of many years' duration, where notwithstanding, quinidin restores normal rhythm, alleviates suffering and prolongs life. In the report of Viko, Marvin and White[16] it is shown that in 75 unselected cases, restoration occurred in 68 per cent of the cases. A higher rate of response to and maintenance of normal mechanism occurred in arterio-sclerotics than in rheumatics, probably, the authors infer, on account of the greater frequency of congestive heart failure in rheumatics; undoubtedly in such cases greater care should be observed and the danger signalled to the patient or to his relatives whose consent should be an important factor in deciding whether or not the treatment is to be tried.

The two cases here presented are useful in so far as they demonstrate some interesting indications for quinidin and the phenomena apt to follow its use.

Case I. Mrs. M. J., 68 years of age; history of arteriosclerosis 30 years duration; had a labyrynthic hemorrhage about 26 years ago. Blood pressure 200-240/110-120. Kidneys normal, last functional P-S-T test six months ago showed 68 per cent elimination. For the past 4 years she has had frequent attacks of edema of the lungs accompanied by auricular fibrillation which at first promptly yielded to digitalis. In July, 1925, however, following an attack of edema of the lungs with its accompanying auricular fibrillation, cardiac failure was relieved by digitalis, but fibrillation became permanent. After five or six weeks of continuous fibrillation, we decided to hospitalise her and give her quinidin. The electrocardiogram confirmed the diagnosis. After thorough digitalisation: 25 drops tinc. digitalis 3 times a day for 3 days; a test dose of 3 grains of quinidin showing no idiosyncrasy, she was given 5 grains every 4 hours; after the 5th dose her pulse became regular with a rate of 70. Quinidin was continued in 5 gr. doses three times a day for one week and then discontinued. Since that time she has had frequent attacks of fibrillation with congestive heart failure which in some instances were quite acute, the lungs filling with rales. The attacks, some of which were in progress for several days, were uniformly relieved by quinidin preceded by digitalis. Once in June, 1926, during one of her attacks of auricular fibrillation, as there were no signs of congestion of the lungs she was given 5 grains of quinidin every 4 hours without preparatory digitalisation, with no relief; quinidin was discontinued for a few days and digitalis given in 20 drop doses every 4 hours until signs of digitalisation appeared. Digitalis was then discontinued and quinidin given every 4 hours in 5 grain doses, with the appearance of a regular pulse of 70 per minute after the 4th dose. On February 25, 1927, after an unusually severe attack, treatment was resumed with the same successful result; an electrocardiogram showed that although the patient was very comfortable with a pulse regular in rhythm and rate, she had a decided right bundle branch block and the absence of the P wave in the three leads showed that the auricles were still fibrillating. On April 15, 1927, after recovering from an attack and with a regular pulse of 70, the electrocardiogram showed marked improvement in the branch block, an inconspicuous P wave appearing in the first two leads. Maintenance doses of quinidin, 3 grain capsules, were prescribed twice a day in the attempt to abolish the recurring attacks, and for five weeks, the longest interval between attacks in the history of the case, the heart remained regular, but as the patient became nauseated, fearing that the treatment was responsible for upsetting her, and without consulting me, she discontinued quinidin; as a result, fibrillation recurred. She was again treated with digitalis and quinidin and as on previous occasions, regular ventricular action followed the fourth 5 grain dose of quinidin, and to this day she has had no recurrence. She is still taking her two 3 grain maintenance doses of quinidin.

Case II. Mrs. G., about 58 years of age, was seized on January 14, 1927, with violent palpitation and dyspnea in the effort to raise a door which had become unfastened from its hinges. She had enjoyed excellent health until a year before her last illness when a carcinoma of the uterus was detected. Her general health however seemed not much altered. When seen, the heart which had never before given trouble, was totally irregular with a large pulse deficit, rales were present at the base of both lungs. Twenty-five drops of tr. of digitalis every 4 hours for 3 days relieved the pulmonary congestion, but the arrythmia was unaffected; digitalis was discontinued and 5 grain quinidin capsules given every 4 hours. Complete relief followed the third dose. She was

seen the following morning and instructed to remain absolutely quiet for a few days. Feeling so well and comfortable, she ignored the instructions and walked to her kitchen to prepare her supper when she suddenly fell to the floor, dying instantly.

In Case 1, the notable features are: 1. That auricular fibrillation may be present with a pulse normal in rhythm and rate. Mackenzie reports a similar case[12] referring him to Lewis for electrocardiographic tracings which revealed that the auricles were fibrillating, the patient's pulse being regular. 2. The uniformity of results when quinidin was preceded by digitalis. We have not repeated the experiment of giving quinidin without preliminary digitalisation in this case, after the one failure of quinidin, not preceded by digitalis. 3. The comfort and relief of the patient when the pulse rhythm and rate became normal, although distinct departure from sinus rhythm appeared in the electrocardiogram. 4. The remarkable effect of small maintenance doses of quinidin. 5. The brilliant results of quinidin when the origin of fibrillation coincides with the first signs of cardiac upset.

In Case II, as no post-mortem examination was made, the cause of death remains obscure: cerebral embolism, or hemorrhage, or heart failure? The moral however, is the necessity of insisting on rest in bed for a few days after quinidin has regulated the pulse.

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DISCUSSION

Dr. A. E. Fossier: Dr. Bayon has so fully and so thoroughly covered his subject that it is very hard for me to discuss it. All that is left for me to do is to repeat some of the many good points he has given us.

The first thing to be considered is the action of quinidin: Its auricular action is the restoration of sinus rhythm due to its power of increasing the refractory period of the auricular muscle fibers, this causes an abrupt termination of the circus movement, which is said to be the cause of fibrillation and auricular flutter. The P-R interval is often at first lengthened, but soon returns to normal. Besides, quinidin lowers the conduction rate in the auricular fibers which results in a reduced number of fibrillations. As long as the fibrillations remain about 350 to 500 per minute, the rhythm is that of fibrillation; if they are lessened, two things happen: first, sinus rhythm will be abruptly restored; second, auricular flutter will take place. Once flutter is established, if quinidin is pushed it will terminate in sinus rhythm.

The action of quinidin on the vagi is opposite to that of digitalis; digitalis increases vagal tone and diminishes ventricular rate; quinidin lowers vagal tone and increases ventricular rate. This increase of rate may be so great as to cause discontinuance of the drug. Digitalis is given to prevent this possibility of its producing heart block.

The absorption and elimination of quinidin are most important factors to consider. It is more rapidly absorbed and more quickly eliminated than digitalis. Auricular flutter may occur as early as two hours after the administration of quinidin.

The elimination of quinidin is also very rapid. It usually disappears from the urine within 12 to 24 hours. It should be prescribed at shorter intervals, while digitalis should be given at longer intervals.

I fully agree with Dr. Bayon that a good many of the deaths attributed to the use of quinidin may not be occasioned by the drug. The doctor bas given us statistics which prove his contention that many of these cases which terminated fatally after the use of quinidin would have died if they had not taken quinidin. I know it has prevented a good many physicians from using quinidin when they could prescribe it with a large margin of safety. Of course, there are precautions to be observed. Quinidin is a cardiac and respiratory depressant. Sudden death and embolism may attend its use, attacks may occur; but this may happen under any other circumstances, therefore this should not mitigate against the proper use of quinidin.

In the administration of this drug we must, as much as possible, select our cases. The standard of selection I generally use are that the circulation must be efficient without the help of drug while the patient remains in bed, and there must not be any edema, albuminuria or enlargement of the liver. Then quinidin may be given irrespective of the heart condition. Treatment should be inaugurated when patient is well enough to be discharged, otherwise it must be employed with great caution. It is a dangerous drug in exhausted heart muscle.

Now, the method of administering the drug. Frey's method of administrating the drug is my choice. We give six grains in the morning; one dose of six grains the first day, two doses of six grains the second day, three doses of six grains the third day, until the maximum of ten doses of six grains are given in one day. The doses are to be repeated every two hours. The best time to begin the administration of the drug is early in the morning. The absorption and elimination of the drug is so rapid that in giving it at such short intervals it produces no ill effect. You can let your patient up a short while after he has been benefitted from the use of the remedy.

I must also caution you to record frequently the rate and the volume of the pulse. The electrocardiograph should also be used in these cases frequently as a control. No rhythm is to be accepted as sinus rhythm unless it is confirmed by electrocardiograms. Once sinus rhythm is established, the drug is to be discontinued. In the more severe cases we have got to go most carefully. Occasionally we are never able to bring our cases down to the ideal standard.

I wish to emphasize what Dr. Bayon so ably proved tonight, that there is only a minimum amount of danger in using quinidin.

Dr. J. H. Musser: Two features of quinidin therapy that Dr. Bayon did not bring out in his paper—perhaps did not intend to bring out—might be explained. One is that quinidin has practically no value in long continued cases of fibrillation; if fibrillation has been of short duration quinidin may have a very excellent effect. Another thing that should be mentioned, and that is, that a good deal depends on the eitology of the particular cardiac disturbance that is responsible for the auricular fibrillation. I do not wish to imply that we never get good results with quinidin; on the contrary, in a number of cases of rheumatic heart disease that have come under my observation, the effect of quinidin is sometimes brilliant. I must confess, with such a drug as digitalis on hand, which we use so frequently, and which has proved its value, it seems to me that quinidin should be reserved for a few selected cases only. Incidentally, there is another use to quinidin which was not mentioned (of course Dr. Bayon was discussing auricular fibrillation), the benefit you get with nervous individuals having frequent ectopics; if you put them on quinidin they will be very materially benefitted by having the frequency diminished, or the ectopics actually stopped. Mentally at least this seems to help them quite considerably.

Dr. Randolph Lyons: Dr. Bayon is to be complimented on his interesting paper.

I would like to sound a warning about the use of quinidin in fibrillation. I have had a number of cases of transient fibrillation where the fibrillation only persisted a few hours to a few days, in whom it was difficult to tell whether the cessation was due to the drug used. I give quinidin to patients that can not be controlled with digitalis first, but when the fibrillation stops a few hours or days after administering it, I am not always certain that the change can be ascribed to the drug.

I do not wish to imply that quinidin has not much value in the control of fibrillation, but that we have to be cautious in interpreting our results; a good many of these cases of fibrillation would cease spontaneously without quinidin or any other drug.

Dr. Geo. R. Herrmann: Dr. Bayon has indeed presented us with a complete resume of the literature on quinidin. His unusually spectacular results have, I fear, made him a bit partial to the drug. I cannot agree with his contention that the fibrillary auricle is just as likely to send forth broken off bits of thrombus which may act as emboli as is the auricle which has been changed from fibrillation to normal mechanism. As we all know in fibrillation there is no contraction of the auricle whatever. The fibrillary tremors appear only in the dilated walls of an engorged, in-

active auricle, and the effects of these fibrillary waves upon the content of the auricle is practically nil, while when normal mechanism is resumed a coordinated pressure of the contents again comes into play. In cases in which the onset of auricular fibrillation is of recent date and in which there has been little oportunity for thrombi to form, conditions which are common to the auricular fibrillation of exophthalmic goiter, quinidin is, of course, the drug of choice since digitalis has very little effect on this type of auricular fibrillation. When other acute postoperative paroxysms or transient auricular fibrillation or that that occurs in acute infectious diseases are encountered, quinidin is most certainly indicated, but for the disturbances that are present in chronic heart disease, it is, I feel certain, only the special case in which the results are as brilliant as those that Dr. Bayon has experienced.

It is, however, good to have clinicians who are brave enough to take the chance, for certainly the faint of heart and those who are gun-shy from accidents with the drug cannot hope to settle the matter, and probably frequently deny their patients a drug which might be most useful. The contraindications, however, must be kept in mind. Idiosyncrasies to the drug must, of course, first be ruled out by minute test doses. It can do no harm to reiterate the fact that patients who have suffered embolism previously or who have vegetative endocarditis or who have a high grade of heart failure or who have cardiac pain, that was relieved by the onset of fibrillation, should not be given quinidin.

Late Results From Tryparsamide Therapy in Neurosyphilis.—On the basis of his experience and a review of results after the lapse of from five to six years, W. F. Lorenz urges that every case of syphilis of the central nervous system be treated energetically. Tryparsamide and mercury offer a convenient and remarkably effective treatment. It is necessary to select cases in making a choice of tryparsamide, other arsenicals, malarial inoculation or other therapy of proved value. In the instance of tryparsamide, an extensive trial should be made before the drug is discarded. There are now many patients who have enjoyed health and efficiency for periods of from five to six years as the result of treatment with tryparsamide and mercury. These are largely cases that would have otherwise, without doubt, passed on to hopeless chronicity and death. As a result of this review, it is Lorenz' conviction that absolute differentiatoin by either clinical or serologic evidence between amenable and resistive cases cannot be made before a therapeutic trial. Early improvement is very encouraging and argues for a persistence of the effort instituted. Lastly, a point that cannot be too much emphasized is the practice of regarding every case as an individual problem in which all the evidence, clinical and serologic, must be weighed before planning the therapeutic attack.—J. A. M. A., April 21, 1928.

SOME PRINCIPLES UNDERLYING THE SURGICAL MANAGEMENT OF LESIONS OF THE STOMACH*

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MEMPHIS, TENNESSEE.

A discussion of duodenal ulcer is not within the scope of this paper. That is a subject of tremendous importance and should be the basis of a monograph. Chronic duodenal ulcer is probably the most common surgical lesion of the upper intestinal tract, and yet it is fraught with the least of cancer potentialities. The duodenum possesses an extraordinary immunity against malignant disease and primary cancer is seldom found there. The pylorus is a sort of "dead line" across which cancer seldom passes.

Ulcer of the stomach is a rare disease although early writers thought it to be of common occurrence. For all practical purposes, every gastric ulcer should be regarded as a potential cancer. Many gastric lesions which appear benign even after a careful roentgenologic study later prove to be malignant. Gastric ulcers undergoing carcinomatous transformation and early localized primary carcinomatous ulcers compose a group of most interesting and hopeful cases. One-third of all the cancers in men and one-fifth of those in women occur in the stomach. No one can definitely estimate the exact frequency with which benign gastric ulcer becomes malignant. Neither can it be determined how often cancer develops on pre-existing benign gastric lesions. Petterson places the percentage as low as 2 per cent while MacCarty once thought such a transformation occurred in 71 per cent of all cases. Somewhere between these two extremes the actual occurrence will be found. Although Eusterman has recently written more hopefully regarding the prognostic value of gastric acidity in elderly people suffering from chronic gastric ulcer, yet the acid

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*Read before the North Mississippi Six County Medical Society at Water Valley, Miss.

factor alone should not afford a sense of false security to such patients and keep them from obtaining the benefits of surgical removal of the ulcer while it is in a curable state. The chief complaint in chronic ulcer is pain, usually regular. The pain up to a certain period is relieved by food. The time of occurrence of the pain with reference to food intake will vary according to the location of the lesion.

In our clinic about 25 per cent of the duodenal ulcers are treated surgically. When the patients are not sufficiently relieved by medical management, when bleeding occurs repeatedly, when obstruction interferes with adequate nutrition or when perforation occurs, the surgical indication is definite. When a demonstrable gastric ulcer is found and no contraindication exists, immediate surgical treatment is advised. The results have justified this procedure when the ulcer is accessible and amenable to surgery. The ulcer may be excised with the knife or cautery and the excision supplemented by a gastro-enterostomy. This operation has given most satisfactory results. If the ulcer is large and so located that a partial gastrectomy offers the patient a better chance for cure, a resection is done and, if possible, the continuity of the intestinal tract restored by the Polya technic. In some instances the Bilroth No. 1 or No. 2 type of operation may be selected to meet certain indications.

Occasionally a very large ulcer will occur high up on the lesser curvature or posterior wall and be so inaccessible that excision or resection is not technically possible. Some years ago Moynihan suggested treating such ulcers by making a large gastro-enterostomy opposite the crater of the ulcer and supplementing this by inserting a jejunostomy tube a few inches lower down the jejunum. The patient may be nourished through this tube a sufficient time to allow the ulcer to heal. This method was used in one of our cases some five years ago. The patient was a woman 56 years of age who had a huge ulcer on the lesser curvature near the cardia, perforating into the under surface of the liver. A posterior gastro-enterostomy was done and a jejunostomy tube inserted eight inches below the anastomosis, through which tube the patient was fed for 120 days. No food nor drink was allowed by mouth until after the tube was removed. The fistula closed spontaneously and the patient made an uneventful recovery. She is entirely well and a recent roentgen-ray examination showed the stomach had practically returned to normal condition.

Gastro-Enterostomy.

Gastro-enterostomy has the widest range of usefulness of all operations for benign lesions of the stomach and duodenum. When the indications are adequate and the technic of performance proper, gastro-enterostomy leaves but little to be desired and complications are rare. Its simplicity, safety and efficiency make it the most firmly established of all operations on the stomach. It is true that the results are not always perfect but they probably reach a higher percentage of satisfaction than any other operation so far used. Gastro-enterostomy is unsurgical in principle but the most efficient makeshift so far developed. It is occasionally necessary to disconnect the anastomosis. Gastro-enterostomy has been done in two groups of cases: 1. The necessary; 2. The unnecessary. According to Balfour the unnecessary gastro-enterostomy discredits the surgeon but not surgery. Gastro-enterostomy done on account of conditions simulating ulcer, atony of the stomach, hemorrhage not due to ulcer, etc., has brought the operation into more or less disrepute in the minds of many medical men and some surgeons. The only necessary condition demanding gastro-enterostomy is a demonstrable lesion of the stomach or duodenum. A necessary gastro-enterostomy may be followed by poor results. Occasionally the anastomosis may be poorly made, the location of the stoma improper or some intra-abdominal pathology overlooked or not removed at the time of the operation. These may be some of the reasons for such apparent failures.

Recurrent or marginal ulcers occur in a small per cent of cases and usually demand another operation to disconnect the anastomosis. Gastro-jejunal ulcers may be caused by the same agent that produced the original ulcer if the cause has not been removed. It is probable that some patients are unusually susceptible to ulcer formation. All foci of infection should be removed as early as possible when any ulcer, whether primary or secondary, is being treated. Marginal ulcers do not respond well to medical treatment. As soon as a definite diagnosis is made, the ulcer should be treated surgically by one of the following methods according to the indications: 1. If the original ulcer is healed and the pylorus not obstructed, a simple disconnection of the anastomosis will suffice. 2. Disconnection and some type of pyloroplasty. 3. Disconnection supplemented by a new gastro-enterostomy or a plastic operation on the old anastomosis after excising the ulcer. 4. Disconnection and partial gastrectomy, preferably by the Polya technic.

Gastro-jejunal ulcers occasionally perforate into the colon. This complication has occurred in two of our cases. It is a formidable sequela and one that demands immediate separation of the colon, the stomach and the jejunum. Fortunately, simple separation was all that was necessary and resection was not done. Both patients have entirely recovered and are apparently in good condition. There has been no reactivation of the primary ulcer.

Multiple ulcers are found far more often than they were formerly thought to occur and for this reason radical resection is gaining ground. In order that the ulcers may be removed at the time of the primary operation, partial gastrectomy is becoming more and more the operation of choice for many benign lesions of the stomach. It is safe and complete and removes the lesion whether single or multiple. In the hands of experienced surgeons the mortality from partial gastrectomy appears very little higher than from excision of the ulcer and gastro-enterostomy or gastro-enterostomy alone.

CANCER.

Some one has said that the body lines of cancer cross in the stomach. In the United States 100,000 people annually die of cancer. Approximately 37,000 of these deaths are due to carcinoma of the stomach and liver. We know that primary cancer of the liver is rare and, eliminating this group, it is certain that well over one-third of cancer deaths are due to carcinoma of the stomach alone.

In the sixteenth century the average length of life was about 22 years. Today the span is well beyond 56 years. Much progress has been made in salvaging the lives of infants and children, thus permitting a larger number of people to reach middle life. Cancer begins to take its toll, as a rule, at or beyond middle life, and on this account the relative proportion of cancer deaths is more apparent. Unfortunately, we are not yet able to salvage the same proportion of adult life as we have in infants and children. This is a problem that our present generation should endeavor to solve.

What can we do about it? There can be but one answer. Make early diagnoses. The treatment is perfectly plain. No cancer of the stomach has ever been cured spontaneously or by medical means. The surgical removal of the malignant lesion while it is confined to a local area is the only hope for a permanent cure.

The pessimistic attitude of the laity, as well as the profession, seems justified in the light of present conditions. We are creatures of tradition. This tradition is common to medical men and surgeons equally as well as to people in other walks of life. Our conception of cancer of the stomach must be revised. All medical men are familiar with the text book picture of gastric carcinoma. The picture is one of the last stage symptoms depicting a patient well beyond the bounds of curability. Just so long as text books and instructors

continue to teach late stage symptoms of the disease, progress will be retarded in salvaging the lives of people suffering from lesions of the stomach. People must appreciate the fact that gastric carcinoma may exist with little or no loss of weight, no alteration of appetite, no anemia, with normal gastric acidity and without a palpable epigastric mass. Laymen procrastinate in the fallacious notion that people past middle life all suffer more or less from dyspepsia. The majority of patients apply for examination late or long after the dyspeptic symptoms first manifest themselves. Lack of time or incomplete examination often fails to reveal the potential or real condition in the stomach until after the period has passed when a cure might be affected.

Since the advent of the roentgen-ray as an adjunct in diagnosis, competent roentgenologists have developed all over the country. Co-ordinate team work between the roentgenologist, the internist and the surgeon is making for progress. Thirteen years ago Friedenwald studied 1,000 cases of cancer of the stomach and found only 28 per cent of them operable at the time they were examined. Three and three-tenths per cent of that series were treated by radical resection. Eusterman has recently reported a large series of cases in which he found more than fifty per cent were operable, and forty-six per cent of that group were subjected to radical resection. Thus we see that such team work and some education of the people along the lines of careful examination are accomplishing something toward the end of early diagnosis and extending the operability to a higher percentage of cases. Periodic health audit propaganda should be spread among the people generally, especially those beyond middle life. Any dyspeptic complaint should be warning sufficient to justify immediate examination in which are included the combined efforts of the internist, the radiologist and the laboratory man. If the history is suggestive and a deformity or filling defect is found, the surgeon should also become a member of the consulting group.

Obstructive lesions at the pylorus present quite different symptoms to lesions at or near the cardia. Lesions in the pars media involving the lesser curvature, the anterior or the posterior wall, often remain quiescent until the disease is well advanced. A small circumscribed cancer near the pylohus may so nearly simulate a benign ulcer, even to the point of an intermittent course, as to deceive the most careful observer. Early surgical removal in such cases is a necessity. It is estimated that the primary location of cancer involves the cardia in less than one per cent. The lesser curvature is involved in about 25 per cent while the pyloric antrum is involved in 60 per cent. This fact alone places the surgical treatment well in the forefront of all remedies. If the reverse condition were true, and the cardia should be the common location, then surgery could be practically eliminated in this process of salvaging cancer sufferers. The inaccessibility of the upper end of the stomach and the technical difficulties encountered in operating almost preclude surgical removal of lesions in that locality.

There is a tendency on the part of the profession to try antiluetic therapy in many cases of gastric lesions. This procedure is probably not justifiable in the light of our present knowledge concerning the appalling number of deaths from cancer of the stomach, most of whom are victims of late diagnoses. Patients have improved under arsenical treatment but this is hard to explain. Arsenic probably stimulates the blood centers, creates a better appetite and a sense of well-being, thereby building up a false security. Syphilis of the stomach is a rare disease while cancer is far too common. If antiluetic remedies are used, their use should not extend over a long period of time and a careful roentgenologic check should frequently be made.

PRE-OPERATIVE PREPARATION.

Moynihan once said, "Surgery has been made safe for the patient; we must now

make the patient safe for surgery." Much can be done in the way of preparation to minimize the risk of operation for cancer of the stomach. Patients who have been on a starvation diet, even though no obstruction exists, can be benefited by a few days of rest in bed with a liberal diet and abundant fluids. In those cases with marked obstruction at the pylorus, the dehydration and starvation are often pronounced and preliminary preparation is imperative. In the latter group of cases, blood chemistry studies are valuable in determining the amount of toxemia present. The chlorides will often be low. Much benefit may be derived by the intravenous administration of sodium chloride and glucose solution given once or twice a day for a short time prior to operation. The margin of safety can be greatly extended by such preliminary treatment.

Gastric lavage repeated every twelve hours should be done for a sufficient length of time to cleanse the stomach entirely. The stomach tube seldom does harm even in the most extensive gastric lesions. Washing out the debris and infected material will render the edematous stomach walls more healthy and permit better approximation and suture during the operation. Pyloric obstruction should not be considered an emergency condition comparable to obstruction farther down the intestinal tract. Time spent in the preliminary preparation is valuable and avails much in the final outcome of many such cases.

Cancer patients are often quite anemic when first examined. The anemia may be due to an actual loss of blood, to hemolysis from disease toxemia, or to both. Treatment of such secondary anemias is not always satisfactory. It has been our custom to use blood transfusions preliminary to operation when the hemoglobin is below 50 per cent. We rarely find an actual increase in the hemoglobin percentage after transfusion but the red blood cell count is often appreciably elevated. A general improvement is noted and the patients experience a sense of well-being, making transfusion valuable. A case in point will illustrate this beneficial effect. A man, 65 years of age, came to the clinic last fall on account of a large obstructing carcinoma involving the pars media and pyloric antrum. He was a poor surgical risk. Blood examination showed the hemoglobin 40 per cent and erythrocytes 2,500,000. Two blood transfusions of 600 cc. each were given by the direct method without reaction. Very little change was noted in the blood picture but the patient experienced a feeling of improvement, was able to go through the operation satisfactorily and made an uneventful recovery. A palliative gastro-enterostomy was done and he has been reasonably comfortable up to now, which is well more than six months postoperative. This case serves also to emphasize the fact that the mortality as well as the technical difficulties of the operation can be materially influenced by timely attention to proper preliminary preparation.

ANAESTHESIA.

The choice of an anaesthetic should be considered along with the other major factors influencing the treatment of this group of cancer cases. It is well known that pulmonary complications more frequently follow operations in the upper abdomen than elsewhere in the body. This is especially true in cases of stomach resections where extensive operations tend to fix the diaphragm and limit the respiratory movements. Postoperative pneumonias often are fatal in old, dehydrated and debilitated patients. The anaesthetic used, therefore, should be one that least disturbs the pulmonary tissues. It has been frequently noted that operations done under local anaesthesia do not eliminate pulmonary complications. Apprehensive patients may be injured more by using only local than by a properly selected general anaesthetic. The combined use of local anaesthesia and ethylene gas has been very satisfactory in our work, and the pulmonary complications have been reduced to a minimum.

OPERATION.

The golden rule should always be applied in determining the type of operation to be done in such grave diseases as cancer of the stomach. The first aim should be to cure the patient. Finding cure humanly impossible, the next step should be to prolong life, minimize suffering and add to the comfort of the patient during his remaining days. Often this can be done by the use of some palliative type of operation. In a large number of cases the average length of life, following palliative gastro-enterostomy, has been seven months. Where no operation was done, a similar group of patients lived six months after the examination. An average gain of one month in the span of life and added comfort during the declining days may justify an operation. Occasionally, however, one is rewarded by an unexpected cure following a resection of the stomach when the case at the time of exploration was apparently well advanced beyond hope. With the exception of those considered by a competent roentgenologist to be inoperable, all cases not showing definite evidence of metastases should be offered the benefits of an exploration. When the disease is limited to the stomach and adjacent lymph-nodes and does not extend too high to permit a safe anastomosis, the surgeon is usually warranted in doing radical resection. The size of the tumor does not always determine its resectability. Often a large movable cancer can be removed with greater ease than a smaller one that has become fixed to the adjacent structures. The size of the lymphatic glands is not a safe criterion in determining the extent of metastases. If the surgeon has the benefit of a pathologist near at hand, a gland can be removed and a section quickly made. One will often find such lymph-nodes, even though large, entirely inflammatory. Ordinarily a resection should not be done when metastases exist in other organs, but occasionally removal of the growth is justified even though small nodules are found in the liver. Such secondary invasions may grow slowly and the patient's life be prolonged with lasting good results. In cases of frankly nonresectable cancers of the stomach, there has been a higher operative mortality following simple palliative gastro-enterostomy than has been recorded in the less advanced cases where a radical resection has been done. It is to be noted in the former group of cases, that the patients are very sick and are, therefore, poor surgical risks. Surgeons should, therefore, be very careful in the exploration and decision for or against radical resection.

Crile has emphasized the importance of a two-stage operation. The gastro-enterostomy is to be done first, followed two weeks later by the resection. Attention to preoperative preparation, however, will lessen the need for such a procedure. In cases of marked obstruction where a resection is not advisable, a palliative gastro-enterostomy should be done. The posterior operation is more satisfactory, but on account of fixation the stomach cannot always be drawn through the transverse mesocolon and, therefore, an anterior anastomosis is the only choice. It is surprising how comfortable many patients are made following such palliative short-circuiting operations. They often gain weight and color and the appetite becomes much improved. The declining days are much more endurable after the obstruction has been overcome.

In the event resection has been done, there are several ways the continuity of the intestinal tract may be restored. The Bilroth I is carried out by direct union of the duodenum to the stomach. This is not always satisfactory in cancer cases on account of the tendency of the disease to recur at that point, making obstruction possible later on. The end of the duodenum and that of the stomach may be closed and an independent gastro-enterostomy done, which is Bilroth's second type of operation. This procedure has its advocates and is a very satisfactory operation. The Polya type of anastomosis is probably the most popular and deservedly so. It is made by

uniting the proximal end of the stomach to the side of the jejunum through the transverse mesocolon as a posterior operation. When the stomach is too short to be drawn down through the transverse mesocolon, the ante-colic anastomosis of Balfour can be satisfactorily done. To avoid obstruction and retrograde distension of the duodenum, this operation should be supplemented by an entero-anastomosis uniting the proximal and distal loops of the jejunum.

POSTOPERATIVE TREATMENT.

Gastric lavage should be used frequently in case the stomach does not drain well. It can do no harm and by washing out old clots and offensive accumulated fluids often adds much to the comfort of the patient. Healing is promoted and by securing adequate drainage, the stomach resumes its function more rapidly and the convalescence period is shorter. Fluids should be given frequently and in large quantities. We are using 1000 cc. of 2 per cent glucose, alternating with salt solution every eight to twelve hours during the first three days postoperative. A 5 per cent glucose continuous proctoclysis is used to supplement the fluid intake. All fluids and food by mouth should be withheld for a period of two or three days. Sips of hot water are tolerated better than cold. Liquid diet should be started on the fourth day and gradually increased until at the end of a week the patient is taking a fairly liberal diet. It is surprising how little shock is experienced by such extensive resections. Stimulants are rarely necessary. Wound infection seldom occurs and the patients are usually up on the twelfth day and ready to leave the hospital as early as the average gall-bladder or other abdominal operative patients.

Fifty per cent of the patients live three years or more if the operation is done before the regional lymph-nodes are involved. A few permanent cures will be effected. When the adjacent lymph glands are involved with the malignant process at the time of the resection, the three year cures drop to 20 per cent or less. In the future, early diagnosis is our only hope for a satisfactory treatment of this desperate group of cases. Very little progress has been made in the clinical interpretation of cancers of the stomach, probably on account of the lack of symptoms present in many cases. As mentioned before, the roentgen-ray as an aid has been the outstanding agent in promoting early diagnosis. A competent roentgenologist will make the correct diagnosis in 95 per cent of all gastric lesions, three out of four of which are malignant.

The appalling number of cancer sufferers should be sufficient to justify every one in having a periodic health examination. This examination should be repeated from time to time, and in case dyspeptic symptoms of any nature should arise, a competent internist and a roentgenologist should be consulted. If the individual is beyond middle life, the examination should always include a roentgen-ray study of the stomach and intestinal tract. Not until our people are educated to a realization of the prevalence of this terrible malady will we begin the real business of salvaging our middle aged and elderly people. A decade or two of intensive education, periodic health audits and properly applied early surgical treatment will enable us to reduce the annual 100,000 death rate to a much smaller number.

Martyrs of Medicine.—The prizes that the world awards for such self-sacrifice and martyrdom are not great. The public has not yet learned to appreciate the type of courage that such men display. The investigative spirit that drives them is little understood by the average man. Indeed, few appreciate the type of mind that caused physicians in the past to suck the infectious membrane from the throats of children strangling with diphtheria, that caused hundreds of physicians to expose themselves to smallpox, to plague and to influenza in their devotion to duty. Such martyrs are merely living up to the traditions of their calling estabilshed thousadns of years ago. The death of an investigator like Noguchi, whose value to humanity is incalculable, serves but as an opportunity again to remind the public of the trials that medical men undergo and of the service that they render.—J. A. M. A., May 26, 1928.

THE GALL BLADDER.

ITS PATHOLOGICAL CHANGES AND SURGICAL TREATMENT.

D. C. DONALD, M. D.,

BIRMINGHAM, ALABAMA

The gall bladder and its bile ducts are developed from the same mass of cells as the stomach, duodenum, and pancreas; made up of four coats, the mucous, the muscular, the elastic, and the serous. The nerve supply arises by a filament from the vagus, furnishing the motor and secretory impulse to the gall bladder and its bile ducts, and inhibitory fibers to the sphincter of the ampulla of Vater; sensory filaments from the right ninth intercostal segment joined with the sympathetic is known as the inhibitory nerve for muscular structure of the gall bladder.

The gall bladder is a sac with a capacity of 0.75 to 1.5 ounces. The older physiologists maintained its chief function was to serve as a reservoir for the bile during the interval of digestion. The spiral valve found in the common duct at the junction of the hepatic and cystic duct aids the filling of the gall bladder during the interval of digestion. The gall bladder is richly supplied in lymphatic tissue, has great power of absorption and its mucous membrane is arranged to bring the contents in contact with as much surface as possible. The muscular walls are diffuse and weak.

Anatomically the gall bladder is best fitted for absorption, the muscular coat aids in mixing and bringing its contents in contact with the mucosa. Many years elapsed before the old idea of the gall bladder performing any function other than the power of holding and discharging the same amount and quality of bile as discharged by the liver. The gall bladder of today is known to have a great function in health, largely conèrmed by the laboratory workers, Mann[1], Graham and Cole[2], and many others.

Invasion of the pathogenic organisms attacking its mucous membrane and depositing connective tissue, blocking the lymphatics, changes this organ, which plays such an important part in health, to one that acts as a focus of infection and if not recognized and removed will be the underground soil for invalidism. Today many cases of diabetes mellitus, chronic cardio-vascular disease, and arthritides would be in the class of health were it not for the undiscovered primary focus in the gall bladder and bile ducts.

It is agreed by physiologists who have collected data from laboratory experiments on the lower animals that the gall bladder has the power of:

(1) Regulating pressure within the biliary tract.

(2) Concentration of bile by absorption of its water or fluids.

(3) It has been suggested but not confirmed that blood from the gall bladder empties into the portal vein. It is possible that something is formed in the gall bladder necessary for the liver. Cited by Graham and Cole.[2] J. E. Sweet[3] has brought evidence suggesting the gall bladder forms something which acts to de-esterize cholesterol esters. It has been shown that bile in the gall bladder is eight to ten times as concentrated as it is possible for the liver to make it, or found in the hepatic duct. During the period the bile is in the gall bladder active absorption of its fluid occurs, passing to the blood stream by lymphatics.

The idea has been advanced that the gall bladder has control of its own cystic duct in order to cause pressure filtration of the fluids of the bile. Sweet, with many other physiologists, thinks under normal conditions only a small amount of bile which enters the gall bladder leaves it by way of the duct; the parietal pockets along the intrinsic and extrinsic hepatic ducts and so-called glands of Luscha which in realty are small pouches in the mucous membrane of the

gall bladder are points in which active absorption occurs.

Early morning operation usually finds the gall bladder well filled (fasting time). The liver manufactures bile at varying speeds but constantly, the digestive activity requiring relaxation of Oddi's muscle to care for the extra amount and variety of food. As soon as the ingested food passes the pylorus the acid chyme causes relaxation of the sphincter at the end of the chole-duct and co-ordinately with this the gall bladder expels a portion of its contents. The bile salts are quickly absorbed from the intestine with an increased liver activity to secrete more bile. During this time more bile passes into and from the gall bladder. Later the stomach becomes quiet and chyme not passing over the papilla, the sphincter opens less frequently, and gradually the secretory action of the liver is reduced to fasting time.

Gall bladder infections are most frequently seen from forty to fifty years of age. However, neither young or old are barred from the disease. Records show that stones have been found in a child of ten, and not infrequently today we find patients with gall bladder disease in private practice or clinics, occurring at seventy years and over, associated often in advanced life with extreme maladies, such as carcinoma of the gall bladder, carcinoma of the stomach, or carcinoma of the pancreas.

The lymph stream is the chief route for gall bladder infection to occur; ascending infection from the intestinal flora is less frequent. Typhoid bacilli, streptococci, pneumococci, and the colon bacillus group are the bacteria most commonly found in infections of the biliary system. The typhoid bacillus inhabits the mucosa and muscular wall of the gall bladder in the early teens, patient remaining free of digestive complaints until middle life when the following complaints are offered. Flatulence, coming on several hours after eating; upper abdominal distress or pain, most frequently about one or three o'clock at night, located in the upper right quadrant and running into back and shoulder region.

Pathologically the picture is one in which there are areas of connective tissue deposits in the walls of the gall bladder. Mucus and dead bacteria often form the nucleus for the bile salts to be deposited for future stones; tonsils, diseased gums, and abscessed teeth act as frequent foci for gall bladder infection. Pyorrhea alveolaris is responsible for a large percentage of gastro-intestinal infection, such as gastric or duodenal ulcer, appendix or colon disease. Bile obtained from gall bladder specimens will be eighty to eighty-five per cent sterile, whereas microscopical section from the gall bladder will give a high percentage of positives for increased deposit of connective tissue. The gall bladder has been cited above as an organ for filtration of bile. After the bacterial invasion this function is decreased or destroyed, according to the pathology that has occurred in its walls.

Mann[4] produced chemical cholecystitis by injecting into the blood stream 10 c.c. of chlorinated soda (Dakin's solution) to each kilogram of body weight. A section of the gall bladder as early as six to twenty-four hours revealed definite pathological changes, as infiltration leukocytes and dilatation of the blood vessels extending into the muscularis. Through other experimental investigation for gall bladder filtration the animals were anesthetized and under surgical technique the common duct was doubly ligated and excised between the ligatures; bilirubin did not appear in the blood or urine in any appreciable amount for twenty-four hours following, jaundice not earlier than four days. If the gall bladder was removed or the cystic duct ligated, bilirubin would appear in urine and blood in three hours, jaundice in twenty-four.

Nature has placed on each common, hepatic, and cystic duct at least one lymph node, occasionally two . They have a defi-

nite size in health. If found enlarged at operation it is an indication of excess filtration of the gall bladder, size of the gland depending on the filtration or amount of infection present.

Vincent Lyon[5] of Philadelphia, was first to push forward in current literature the affect of medical duodenal drainage for gall bladder disease with a twenty per cent solution of magnesium sulphate introduced into the duodenum through the Reyfus tube. This relaxes the sphincter and stimulates the flow of bile. Bile from the gall bladder evidently constitutes part of the bile. Stimulating agents such as three to five per cent hydrochloric acid applied to the ampulla raises the pressure in the common duct to 600 to 800 m.m. through the spasm of the sphincter muscle. Fifteen to thirty m.m. is back pressure found in common and hepatic ducts of animals without normal gall bladder (Mayo)[6]. In man the removal of gall bladder does not produce any appreciable change in the common duct pressure in normal life. Common duct tension, taken under anesthesia, is 75 to 100 m.m. of bile; in the gall bladder it varies from 100 to 200 m.m. of bile. Such pressure within the gall bladder, versus that in the common duct, is capable of filtering the fluids from the bile and increasing the concentration eight to ten times over that of the common and hepatic ducts.

Quain[7] has found that the common duct traverses the duodenal wall in an oblique way for a distance of 2 to 3 c.m. Copler[8] and Kodoma[9] (cited by Graham and Cole) say that this angulation of the duct to the bowel and the distance the bowel wall is traversed by the duct constitutes a sphincter-like mechanism dependant on tonicity of the intestine and makes it possible for the intestinal peristalsis to be a factor in regulating the flow of bile from the common duct. Concentration and relaxation of the duodenum govern the duct drainage. Intervals between the peristalfic waves of the duodenum encourage the emptying of the common duct.

Boyden[10], Sosman[11], and others have shown that a meal rich in fat, such as egg yolk and cream, has more relaxing effect on the bile duct and gall bladder, reducing the cholecystographic shadows 1½ to 2 hours quicker than magnesium sulphate. Rountree[12] and Geraghty[12] after demonstrating with the different anilin dyes found phenol-sulpho-phthalein to leave the blood by the kidney route and has proven an invaluable aid in determining the secretory power of the kidneys.

Cholecystography, by Graham and Cole[13], by the administration of tetra sodoiodide-phenol-sulpho-phthalein either orally or by the intravenous route has increased the positive diagnosis of gall bladder disease 85 to 90 per cent. Former roentgen-ray study of the gall bladder and gastro-intestinal tract gave positive diagnosis of gall bladder disease in 8 to 10 per cent. The salt is secreted by the liver; when the impregnated bile leaves the liver and passes into gall bladder it becomes concentrated. Its shadow reveals the approximate size, coats, non-visualized cholesterin stones, time of filling and emptying.

The cases in which we fail to obtain any information from the test are as follows:

1. Those in which insufficient amount of the substance reaches the liver.

2. Inability of the liver to secrete a sufficient amount.

3. Blocking of the cystic duct.

4. Failure of the gall bladder to concentrate the material sufficiently, due to diseased gall bladder wall or too rapid emptying of gall bladder from the duodenal peristalsis.

When the yellow flag of jaundice is raised in disease of the biliary system and its accessory organs the surgical prognosis is usually bad. Jaundice is either hemolytic or obstructive in type. Stones lodged in the common duct are the usual or most frequent cause. The ampulla and middle third of duct are the points where stones are

most frequently placed and are usually milked from the gall bladder.

Operation may show chronic gall bladder with or without stones. Stones can pass from the gall bladder and remain in the common duct without producing symptoms. At operation the gall bladder may not show any gross pathology, microscopical section may be the only mode of estimating the diseased tissue.

Symptoms of Charcots disease appear when the stone completely blocks or traumatizes the mucosa and invites mixed infection. Often a diagnosis of chronic malaria is advanced but not confirmed by blood smear. The chills and fever have no regularity. Heavy sweats and extreme prostration follow the fixation of the stone. Calcium salts, 10 to 15 grains three times a day for ten to fourteen days, forced fluids, rest in bed and attention to elimination, puts this type case in best condition for surgery, but no definite improvement comes until the stone is removed and the duct drained. The gall bladder should be removed at the same time if there is no malignancy of pancreas or ampulla.

Strictures of the common duct are best treated if resulting from stone irritation, and if the stricture is not too dense, by removing the stone; draining the duct three to four weeks with rubber tubing, and cholescystectomy. If the gall bladder is not removed the stricture is reinfected by the diseased gall bladder.

Cholescysto-duodenostomy or cholecystogastrostomy is indicated after removal of the stone if its bed shows massive scar tissue. Internal drainage into the stomach or intestines solves the problem.

Malignancy of the ampulla or pancreas, or growth of head of pancreas requires drainage. Cholecysto-gastrostomy or cholecysto-enterostomy will give better results than placing the tube in the gall bladder for external drainage.

Cholecystectomy is the choice operation for acute or chronic cholecystitis. Cholecystostomy is indicated where the infection has extended into the bile ducts, with inflammation of the pancreas. Secondary cholecystectomy may be necessary to restore the patient to health, but should not be done at primary operation in the presence of general infection of bile ducts and pancreas.

Gangrenous gall bladder should be removed, with drainage by means of a small rubber catheter in the common duct at the cystic duct junction. The catheter should be directed to the hepatic surface rather than toward the bowel. Often the end of the catheter passes into the bowel lumen and invites infection. Allow the catheter to remain three weeks or longer.

Abscess, or suppurative cholecystitis should be drained by cholecystostomy. Infections extend, by lymphatics, to the liver, portal vein, post-peritoneal space, omentum, etc.

The surgeon should exercise great care and judgment in pathology of the gall bladder and ducts. He should note the thickness of gall bladder wall, relationship and pathology of neighboring structures, such as adhesions of omentum to gall bladder. A gentle milking of the gall bladder will note the ease of draining its contents. The much spoken of strawberry type of gall bladder will have a delayed emptying time for cholecystography. The mucous membrane of the cystic duct often becomes thickened by extension from the gall bladder. Examine carefully for stones in the cystic duct. Careful probing of the common duct has discovered small imbedded stones in the duct or ampulla, whereas, palpation of the duct failed to reveal stone.

An upper right rectus incision from the rib border downward, to enable good exposure of gall bladder and bile ducts, is the most useful incision. Do not cut the post-rectal fascia and peritoneum for the last two inches in the lower angle of incision, this will not interfere with retraction and will minimize the chances for postoperative hernia.

Drain all cholecystectomy cases. Excise cystic duct close to the common duct, avoid any trauma to common duct, transfix drain, preferably a medium sized soft rubber tube, with No. 1 plain catgut to distal end of cystic duct, allow to remain until it loosens, eight to ten days following operation.

CONCLUSIONS.

(1) The gall bladder is peculiarly fitted for its power of absorption by wide distribution of its mucous membrane, thin muscular coat capable through the wide contraction of its fibres of bringing the mucous membrane in contact with the bile, rich supply of lymphatics, and control of the cystic duct. In health this organ has great function: i. e., absorption of its fluids and regulating the pressure within the biliary tract.

(2) Disease changes the gall bladder from an asset in health to a liability, and if not recognized and treated will act as a focus for infection.

(3) Cholecystography in gall bladder disease gives information in 85 to 90 per cent of the cases, whereas former roentgen-ray of gall bladder and intestinal tract gave only 5 to 10 per cent positive findings.

(4) Jaundice gives the surgical case poor prognosis, and should be given medical treatment in an institution for two weeks or longer before operation.

(5 Pathology found at operation as to biliary tract, pancreas, bowel, and liver should be the guide to operative procedure.

(6) Drain all cholecystectomy cases with a small soft rubber tube transfixed to the stump of the cystic duct.

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POST-OPERATIVE TREATMENT:

SOME PERSONAL IMPRESSIONS.*

J. D. RIVES, M. D.,

NEW ORLEANS.

We are frequently asked by students and internes to outline a routine of post-operative treatment. In answering this question we have so often found ourselves in conflict with widely accepted doctrines that it seems worth while to record our views. I say we because most of what I know of the subject has been learned from Dr. Urban Maes, and the conclusions given here have been derived from my own experience obtained to a large extent from his service. I shall not try to cover the whole field nor to give details of technique, but shall limit myself to the management ment of the usual uncomplicated abdominal case with brief comment on a few of the more common complications.

Our principal article of faith is the belief that post-operative treatment is the most annoying, if not the most dangerous, complication to which patients are subjected. That being the case it should be reduced to a minimum, and no deviation made from the usual living habits of the patient, except for reasonable and demonstrable cause. Consideration of fundamental principle of physiology and pathology should determine every move.

When the operation is completed and a light comfortable bandage applied, the subject should be made dry and warm without

*Read before the Orleans Parish Medical Society, December 12, 1927.

delay or unnecessary exposure. Properly clothed and wrapped in warm blankets he should be transferred to his bed which has been warmed to receive him. No opportunity for loss of body heat is permissable. Chilling reduces resistance to infection, predisposes to pulmonary complications, and aggravates shock.

If a general anesthetic has been used the anesthetist should be in constant attendance until a competent person can assume his responsibilities. Before the patient leaves his hands, the upper respiratory tract must be cleared of mucus and debris, preferably by suction. If for any reason we are in doubt as to the emptiness of the stomach, it should be washed before the throat reflexes are allowed to return. The lower jaw must be supported to prevent blockage of the pharynx by the base of the tongue until swallowing shows the return of reflexes. The head should be turned as far as possible to one side to prevent aspiration of vomited material, or if necessary the patient may be turned on his side when vomiting occurs. This care is extremely important and should not be delegated to orderlies or untrained nurses. Deaths from aspiration of vomitus with asphyxia are not uncommon, and we have had the extremely disconcerting experience of seeing our patient leave the operating room with a single orderly in charge and arrive in his ward dead, with his attendant complaisantly unaware anything untoward had occurred. In addition to this immediate risk we have the more common ones of aspiration pneumonia and pulmonary abscess. While I agree with Cutler, Holman and others that infarction accounts for a great many pulmonary complications, the evidence of David Smith has convinced me that aspiration of exudate from tonsil follicles and from infected gums, is also an important factor.

The patient, after being safely returned to his bed, has three imperative needs; namely: rest, fluids and nourishment. Of these we consider rest the most essential one, the only immediate one in uncomplicated cases, and subordinate all other post-operative care to its demands.

Rest of course connotes relief of pain and the greatest possible bodily comfort. It is best obtained by administering morphin in adequate dosage and then permitting our victim to enjoy its effects. No other drug approaches morphin in its effectiveness and in those few cases of idiosyncrasy to it, I have uniformly failed to get satisfactory results from substitutes. I would emphasize two things in the use of morphin; first, that it be given in full dosage, not less than ¼ grain for an adult weighing 125 pounds, or over; second, that it be given early. The first dose is best injected before recovery from anesthesia and succeeding doses before pain has broken the patient's morale. It should be given freely for the first 24 hours, being limited only by slowing of respiration below 16 per minute. For another 24 hours it may be given sparingly. After 48 hours it is of little or no value for the pain experienced is usually that of disordered peristalsis, widely and unfavorably known as "gas pains." These pains are simply prolonged by narcotic drugs. Large hot stupes frequently or continuously applied, together with a rectal tube afford most relief. Enemas and flushes should be avoided at this stage. If pain is controlled and bodily comfort provided by careful attention to the details of good nursing rest is prevented only by anxious friends and relatives and undue zeal in post-operative treatment by his physician. A little tact on the part of the physician will avoid the former and a little common sense, the latter.

Fluids are essential to the maintenance of circulation and elimination; possibly they are of value in diluting toxins. At any rate, the need is real and demonstrable. However, due largely to the work of Crile, who has done more than any one man to improve post-operative care, the administration of fluids has become a fetish practiced with more zeal than discrimination.

If a patient is dehydrated, the condition must of course be corrected either before or after operation, preferably before. But in the usual operation of election and in many emergencies, no such condition exists. The relative dehydration is not excessive, serious, nor urgent and will usually be corrected in ample time by oral administration. The usual 1500 to 2000 c.c. is ample, and even that may be postponed safely until the initial nausea subsides. Of course if vomiting persists other avenues must be used, but this does not commonly occur. Proctoclysis is quite effective, if properly carried out and suffices for all ordinary needs. In the light of our experience with studied restraint, it is astonishing to see sane and conservative surgeons insist on a daily intake of 4000 to 5000 c.c. in uncomplicated cases, while at the same time urging that rest is of first importance. I am quite unable to see how rest and 5000 c.c. of fluid can be given in the same 24 hours. It is stated that hypodermoclysis by the Bartlett method is painless and that is no doubt true, but no one can say that it is compatible with comfort. Our own experience has convinced us that given a case not dehydrated, not in shock, not severely toxic, and not unduly nauseated, the disturbance of rest attendant on the forcing of fluids by the various mechanical methods does more harm than the fluids do good. Our practice is to give cracked ice and ice water by mouth as soon as consciousness returns and continue with increasing quantities until a normal intake is achieved. No attempt is made to force fluids at any time, unless for special indications.

Nourishment is handled in the same way. Liquids are given freely in small doses, as soon as nausea subsides. Hot drinks are tolerated better than cold in some instances, but no rule can be formulated. Hot tea and coffee, or broth, may be used. Fruit juices sweetened or not as desired are particularly satisfactory and the cold carbonated drinks, such as coca cola are frequently retained when nothing else is. Sugar is the most valuable food element at this stage, and the current superstition, that fruit juices and carbonated drinks cause gas pains, has no support in physiological, nor clinical evidence. Soft food, including toast, soft eggs, cereals, etc., may be started usually on the third or fourth day. It is probably best to be guided by the patient's desire for food, rather than by the calendar. It is worthy of note, however, that persistent nausea without organic cause will sometimes respond promptly to a small dry meal. Milk must be considered as a solid, since it coagulates in the stomach, and its use postponed until solid food is given, usually about the fifth to the seventh day, depending on the patient's expresse desire for it. We have followed this regime for nine years and note the result with great satisfaction. The only important modification commonly practiced is a rather rigid restriction of proteins and fats in liver and gallbladder cases during recent years, following the reports of Walters and his co-workers. It must be remarked here that Dr. Allen Eustis has insisted on this precaution for many years, with very little local encouragement or support. Nourishment is not an immediate need in operations of election and in those emergencies where normal nutrition was kept up until just before operation. If patient's are not starved pre-operatively, they will stand 24 hours starvation without acidosis or other ill effects, so there is no real need for glucose by hypodermoclysis or infusion, unless complications arise. As for the use of solid food early, it is well to remember that if the stomach functions all food, except sugar which is absorbed high in the intestines and wood fiber which is not absorbed at all, is very much the same sort of material when it reaches the ileum.

In the care of the bowels we meet the powerful influence of ancient traditions. The pre-operative purge that kept patients awake all night before operation, has almost disappeared and the barbarous practice of purging on the third post-operative

day has lost much ground, but the early enema and flush are strongly entrenched and yield slowly, if at all. Peristalsis is arrested by handling the bowel or peritoneum. This paresis is a protective and salutary condition and no attempt should be made to correct it. It is useless to do so for the disturbance of the intestine's peaceful rest results only in a peevish, resentful and disordered response that not only fails to empty it effectively, but causes its unfortunate owner infinite distress. This churning of stagnant bowel contents acts much as a similar process would on beer. If tympanites was not present, it is produced; and if it was present, it is increased and prolonged. If the colon was properly emptied before operation, there is no need for concern about bowel movement. A brief period of constipation does no harm and the disturbance of rest incident to repeated enemas and flushes before orderly peristalsis is resumed is a serious matter. We have practiced studious neglect of the bowel for many years with much satisfaction to ourselves and our patients, though some of them are distressed by the absence of gas pains. Tympanites and abdominal colic are due to intestinal trauma and may be largely avoided. If they occur, hot stupes and a rectal tube to save effort in expelling gas give more relief than any other measures. Orderly peristalsis is resumed on the third or fourth day after which daily enemas will give good results and will suffice for all ordinary needs.

Care of the wound is very simple, if properly carried out. Frequent dressing of a clean wound is needless and a great nuisance to the patient. If no drains have been left in and infection or hemorrhage do not occur, there is no need to change the dressing before the sutures are removed. However, one change two or three days after operation may be worth while if the gauze become badly stained with serum and blood from the incision, for this makes the dressing stiff and uncomfortable. Sutures may be removed on the eighth day, for at that time union has become fibrous. After removal the skin should be cleaned with alcohol or ether and a dry dressing applied. It is well to inspect again in two or three days for separation of the skin sometimes occurs. Sudden sharp pain in a wound usually means that a hematoma has developed. This should be evacuated and bleeding controlled. Pressure is usually sufficient. Careful inspection for possible wound rupture must be carried out. Rupture usually announces itself by a gush of blood stained fluid, but if the skin remains intact pain or the nausea incident to strangulation of bowel or omentum may be our only warning. Complete resuture of the wound should be done at once, preferably by through and through non-absorable sutures. The immediate result is almost always excellent, but we have not been so fortunate as Lahey in avoiding incisional hernia.

Fever persisting after the third day should cause careful inspection of the incision for evidence of infection. Redness, local heat and induration point the way to the focus. No instrument is so valuable for examination as the ungloved fingers. Areas of induration require opening with a blunt instrument. If pus is found, it is usually best to remove the adjacent suture, make a free opening and treat the entire area with hot wet compresses. I prefer a saturated magnesium sulphate solution, since it adds a hygroscopic action to the more essential heat. This simple treatment clears up simple stitch infections in two or three days. When extensive involvement of fat and fascia is present, the wound must be opened widely and treated either in the same manner, or by the Carrel-Dakin technique. The latter is best if properly carried out, but quite worthless otherwise, and it is very difficult to use in most hospitals. Antiseptics are quite worthless, unless they destroy the slough and exudates that protect the rear of the advancing army of bacteria. I know of no antiseptic that accomplishes this except Dakin's solution.

A policy of studious neglect of wounds pursued for nine years has been accompanied by an incidence of wound infection less than 2 per cent. Sealing of the defect with fibrin occurs in twelve hours and infection will not occur if we do not pry into it. Brilliant and seductive colors painted on the skin serve only to produce an annoying dermatitis.

It is not my purpose to deal with the serious complications incident to operative surgery, but it seems necessary to consider a few that are so common as to force themselves on our attention.

A slight degree of shock attends all major operations and is unavoidable, but severe shock following ordinary operations indicates a poorly planned, poorly executed, or ill advised operation. It must be borne in mind that there are only three measures of proven value in the treatment of shock; namely, external heat, rest, and fluids, including glucose solutions and blood. Stimulants have never shown results experimentally, nor in our hands clinically. Strychnin interferes with the salutary effect of morphine and should be avoided. I have never seen evidence of improved heart action from digitalis, though I must admit that I have never seen it given in dosage large enough to accomplish anything. A diseased heart needing digitalis should have it before operation and a normal heart will show no benefit from its use.

Fluids may be given by rectum, by hypodermoclysis and by vein. The three methods differ only in the rapidity with which results may be obtained. Infusion is the most certain, the most rapid and produces the least discomfort. I believe that glucose and sodium chloride are the only substances worth adding to water for infusion. It is well to remember that there is a limit to the amount of fluid that may be given with benefit, and that in mild degrees of shock, external heat and rest will give the desired result with a very moderate amount of fluids, the administration of which interferes seriously with rest. Morphin should be given to the point of maximum therapeutic effect with little regard for the dose required, for in the absence of rest and relief of pain all other measures will fail.

Nausea follows almost all abdominal operations and vomiting follows a great many. It is due to many causes, most important of which are the central effect of the anesthetic and intra-abdominal trauma. For nausea and vomiting in the first three or four hours nothing need be done, except the application of cool compresses to the throat and face. There is no need to withhold cracked ice and ice water in small quantities at this time. They are very grateful to the patient and do not increase the trouble. It is much less trying to vomit something tangible than to retch without effect. If the condition persists stomach washing should be performed without delay. It is by far the most effective measure and should not be delayed until serious gastric dilatation has occurred. In obstinate cases a duodenal tube should be passed into the stomach through the nose and left in place thus providing constant drainage of the stomach and a ready avenue for frequent gastric lavage. Frequent vomiting of small quantities of bile stained fluid indicate acute dilatation of the stomach, or paralytic ileus of the small gut. The consideration of these would lead us too far afield as would also the late appearance of nausea and vomiting, usually with abdominal pain and distention that heralds post-operative intestinal obstruction. Simple nausea may be relieved frequently by sips of hot salty broth, or of ice cold brine, and, as mentioned before, late simple nausea sometimes responds to a small feeding of dry food. The condition is not due to the contents of the stomach, and we believe that it is a mistake to withhold fluids. No relief is obtained by so doing and a burden of intolerable thirst is added to the patient's load. Fluids by other routes never relieve thirst completely.

Retention of urine is very frequent. I believe I have left it to the last, because I can formulate no satisfactory policy for its management. A hot water bottle over the bladder, hot irrigation of the perineum, hot enemas, the sound of running water, spirits of nitrous ether and voodo incantations may be tried and will sometimes be followed by relief. None of them has half the value of letting the patient sit up or stand and leaving him to his own devices, but unfortunately this is not without risk. Catheterization is frequently required and opinions vary as to when it should be done. The more frequently it is performed, the greater is the risk of infecting the bladder from without, and the longer it is delayed the greater the risk of infection, due to atonic dilatation of the bladder and consequent stagnation of urine. Our conclusion must depend on who is to do the catheterization. With meticulous aseptic technique, the bladder is seldom infected from without and probably the instillation of a non-irritating antiseptic, such as mercurochrome, after the process lessens the risk. If such precautions are observed, it is probably best to empty the bladder whenever it is sufficiently full to produce real discomfort.

CONCLUSION.

You will note that we offer nothing original. The principles governing our conduct of a case were well established ten years ago, and there are more than enough procedures in common use to deal with any need. It is not hard to treat patients after operation, but it sometimes takes real courage not to over treat them. We feel that it is best to treat only for definite indications. I have considered only those indications common to almost every case. If the don'ts seem to preponderate, it is because I feel that the prevailing tendency is to over treat simple cases. Every surgeon should be master of all resources for protection of his patient, but he should weigh carefully the advantages and disadvantages of every measure in the individual case at hand. If this be done, I am confident that less energy will be expended to no purpose and many troubled bodies will spend their nights in sleep.

DISCUSSION.

Dr. O. C. Cassegrain (New Orleans): After listening to Dr. Rives splendid resumé of post-operative treatment, to me his apology for the choice of such an every-day subject is out of place. Instead, I congratulate him, for I have always felt that it is attention to details, at times apparently trivial, which frequently makes the difference between an easy or a bad convalescence, between success and failure.

The two most common causes of post-operative discomfort are undoubtedly gas pains and nausea, and while not dangerous *per se*, they are certainly very important and a source of great concern to the patient. By following the plan outlined by Dr. Rives we can keep down these complications to a minimum.

Nine years ago, in an effort to lessen the incidence of post-operative gas pains, we divided our service into two sections. The patients in one section were purged the day or night before operation, while those in the other were not purged. It was striking to see how much more comfortable and free from gas pains were the patients who had received no purgative before operation.

Dr. Rives views on the question of post-operative purgation coincide with mine. In our service the purgative is usually given on the seventh day after operation; but an enema is given on the third day and sometimes on the second day.

Dr. Alton Ochsner (New Orleans): There are just a few points which Dr. Rives mentioned that I would like to emphasize; first, post-operative pulmonary complications. There is no doubt that aspiration is responsible for most of these cases, not only when the operation is done under general, but also where local is employed. We had occasion two years ago to examine five patients who had been prepared for tonsillectomy by injecting the peritonsillar structures with one-half per cent of novocain solution. These patients were then given iodized oil to swallow. In all the cases the oil passed in to the trachea instead of the esophagus, demonstrating that aspiration does occur under local anesthesia.

As routine, where there is abdominal distension, we have been using turpentine stupes applied to the abdomen in our abdominal cases. As Dr. Rives brought out, if the use of stupes is contra-indicated, and where the patient has gas pains, we use the therapeutic light, which does not interfere with the dressings and relieves the patients completely.

Now the question arises: What should be done with post-operative urinary retention? These patients should be catheterized. If catheterization is carried out we are not apt to produce cystitis in a healthy bladder. Cabot has shown that catheterization should be done early and one should not wait longer than a period of eight hours; if this is carried out we see few cases of cystitis. Dr. A. J. Ochsner, in those individuals not able to urinate, instilled two ounces of glycerine into the bladder, which procedure invariably gave good results.

Dr. Marcy J. Lyons (New Orleans): Dr. Rives mentioned that he was dealing only with uncomplicated cases, but I would like to get information from him as to how to circumvent an impending paralytic ileus. This condition, of course, we do not recognize until three or four days after the operation, when vomiting and distention occur, and repeated enemas return clear. I have had two or three sad experiences, the last a case in which a simple bilateral salpingectomy, suspension of the uterus and appendectomy was done. This patient took a rather difficult anesthetic and a good deal of manipulation of the bowel was required. She vomited from the time she was operated on, and could not even retain liquids, which were given in small quantities. Protoclysis was instituted and after being retained for a period of several hours, expelled all at one time. About the second or third day she showed some little distention. The vomiting continued and the distention increased. About the fifth day, after having given several enemas, pituitrin, etc., all of which returned clear, I ordered a purgative in the hope that peristalsis might be restored, and as a last resort, but to no avail. She had a rapid pulse all the way through.

Now I am wondering if the free administration of morphin might not be conducive to a paralytic ileus in certain cases? While thoroughly agreeing in the use of it, I believe that in some cases, especially in those case that give a history of obstinate constipation, and where must manipulation of the bowel is necessary, it might be well to reduce the amount of morphin to a minimum.

Dr. Rives (closing): I have avoided discussion of paralytic ileus as being too big a subject to take up under post-operative treatment. In answer to Dr. Lyons I would say that ileus like "gas pains" is best treated by prevention. If peritoneum and viscera are handled as little and as gently as possible this complication will be very infrequent.

The treatment consists not in attack on the gut itself but in supporting the patient until intestinal paresis is spontaneously relieved and orderly peristalsis resumed. Ignore the ileus and keep the patient alive. Water and glucose must be supplied, preferably by hypodermoclysis or infusion, in large quantity. Five to ten thousand c.c. of 5 per cent glucose every 24 hours is required, for the fluid loss is usually very great. There is reason to believe that the pancreas does not supply a normal amount of insulin at such times and clinically the addition of this substance seems to improve results. Half the amount necessary to burn the amount of sugar given is the usual dose. This measure has been criticized as being irrational but ileus of this type seems to have its origin in the autonmic nervous system and the pancreas receives its nerve supply from the same plexus.

In addition to the supply of food and fluids the acid-base equilibrium must be maintained. Haden and Orr have demonstrated that this is best accomplished by keeping the blood chlorides at the normal level. They found that when this is done dogs with high intestinal obstruction may be kept alive as long as 21 days. We find that in most cases 1 per cent sodium chloride added to the glucose solution is sufficient but 2 per cent may be required in some cases. One case of my own lived with a complete small gut paresis due to mesenteric thrombosis for six days before peristalsis was resumed. Within 12 hours he seemed as well as a patient who had had an uncomplicated severe operation three or four days previously. This is a very valuable addition to the therapy of intestinal paresis and deserves wider use.

Stomach drainage and washing is of distinct value and is universally used. Enterostomy has had very wide use and is supported by the best authorities. I have been a strong advocate and still am in cases of mechanical obstruction, but my faith has been shaken. Enterostomy into a paralyzed gut is useless. It will not drain until peristalsis has been resumed and then it is not needed. If it is to have value it must be done above the involved gut in a portion still showing active peristalsis. This is always difficult and may be impossible due to the crowding of the diseased bowels into the wound. The search for active gut may easily do serious harm.

O-Iodoxybenzoic Acid in Treatment of Infectious Arthritis.—O-iodoxybenzoic acid in the treatment of infectious arthritis, accordng to Stein and Taube, New York, has three main actions: (1) analgesia, (2) relief of muscle spasm, and (3) reduction of swelling. Of the series of 102 patients reported on, two with acute rheumatic fever were treated by rest in bed plus the administration of the drug. All the others were ambulatory. Ane hundred cubic centim ters of a fresh 1 per cent solution was injected into the vein of each arm arternately every three days and the solution was allowed to run in by gravity. The authors used amiodoxyl benzoate-Abbott.—J. A. M. A., 90:1608-1610. 1928.

TROPICAL DERMATOMYCOSES IN NEW ORLEANS AND LOUISIANA*†

ALDO CASTELLANI, M. D.,

NEW ORLEANS.

The principal dermatomycoses which are usually considered "tropical" are the following:

1. *Tinea cruris* (Dhobie itch, Epidermophytosis).
2. *Dermatitis interdigitalis mycotica* (Mango toe).
3. *Mycotic pomphylix.*
4. *Pruritus ani of mycotic origin.*
5. *Intertrigo saccharomycetica.*
6. *Tinea albigena.*
7. *Tinea imbricata.*
8. *Tinea intersecta.*
9. *Blastomycosis.*
10. *Sporotricosis.*
11. *Accladiosis.*
12. *Mycetoma.*
13. *Paramycetoma.*
14. *Pseudomycetoma.*
15. *Tinea flava.*
16. *Tinea nigra.*
17. *Pinta.*
18. *Tinea capitis tropicalis.*
19. *Tinea barbae tropicalis.*
20. *Tinea unguium tropicalis.*
21. *Piedra.*
22. *Tricho-aspergillosis.*
23. *Trichomycosis axillaris flava, rubra, nigra.*

*Read before Louisiana State Medical Society, New Orleans, April 26-28, 1927.

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CLASSIFICATION OF TROPICAL DERMATOMYCOSES

I. Due to fungi of the genus *Epidermophyton* Lind, 1879, *Trichophyton* Malmsten, 1845, *Microsporum* Gruby, 1843.

- *Ep. cruris* Castellani, 1905, common variety of Tinea cruris (dhobie itch).
- *Ep. perneti* Castellani, 1907, variety of Tinea cruris
- *Ep. rubrum* Castellani, 1909, variety of Tinea cruris.
- *T. nodoformans* Castellani, 1911, variety of Tinea cruris.
- *T. macfadyeni Castellani*, 1905, variety of Tinea alba.
- *T. albiscicans* Nieuwenhuis, 1907, Tinea albigena.
- *T. blanchardi* Castellani, 1905, Tinea s abouraudi tropicalis.
- *T. ceylonense* Castellani, 1908, Tinea nigrocircinata.
- *T. soudanense* Joyeux, 1912. (Varieties of Tinea capitis.)
- *T. violaceum* Bodin, 1902. (Varieties of Tinea capitis.)
- *T. decalvans* Castellani, 1911. (Varieties of Tinea capitis.)
- *T. currii* Chalmers and Marshall, 1914. (Varieties of Tinea capitis.)
- *T. discoides* Sabouraud, 1909. (Varieties of Tinea capitis.)
- *T. violaceum* Bodin, 1902, var. *khartoumense* Chalmers and McDonald, 1915. (Varieties of Tinea capitis.)
- *T. polygonum* Uriburú, 1909. (Varieties of Tinea capitis.)
- *T. exsiccatum* Uriburú, 1909. (Varieties of Tinea capitis.)
- *Microsporum flavescens* P. Horta, 1912, variety of Tinea capitis and corporis.
- *T. louisianicum* Castellani, 1926.
- *T. spiculatum* Castellani, 1927.

II. Due to fungi of the genus *Endodermophyton* Castellani, 1909.

- *En. tropicale* Castellani, 1914. Tinea imbricata.
- *En. indicum* Castellani, 1911, Tinea imbricata.
- *En. castellanii* Perry, 1907, Tinea intersecta.

III. Due to fungi of the genus *Malassezia* Baillon, 1889.

- *M. tropica* Castellani, Tinea flava.

IV. Due to fungi of the genus *Cladosporium* Link, 1809.

- *C. mansoni* Castellani, 1905, Tinea nlgra.
- *C. madagascariense* Verdun, 1913, peculiar nodular affection.

CLASSIFICATION OF TROPICAL DERMATOMYCOSES—Continued

V. Due to fungi of the genera *Saccharomyces* Meyen, 1838, *Cryptococcus* Kützing, *Blastomycoides* Castellani, 1926, *Monilia* Persoon, 1797.
- Several species, some of which incompletely investigated. → Varieties of blastomycosis.

VI. Due to fungi of the *genus Nocardia* Toni and Trevisan, 1889, and *Cohnistreptothrix* Pinoy, 1911.
- *N. minutissima* Burchardt, 1859, erythrasma.
- *N. carougeaui* Brumpt, 1910, juxta-articular nodules.
- *N. rivierei* Verdun, 1912, nodular affection.
- *C. tenuis* Castellani, 1912, trichomycosis axillarum.
- *C. thibiergei* Pinoy and Ravaut, 1909, nodular affection.

VII. Due to fungi of the genera *Sporotrichum* Link, 1809, *Hemispora* Vuillemin, 1906, *Enantiothamnus* Pinoy, 1911, *Scopulariopsis* Bainier, 1907, *Cladosporium* Link, 1809, *Acremonium* Link, 1809, *Acladium* Link, 1809.
- *Sporotrichum beurmanni* Matruchot and Ramond, 1905.
- *S. schenki* Hektoen and Perkins, 1900.
- *S. asteroides* Splendore, 1911.
- *S. indicum* Castellani, 1908.

→ Varieties of sporotrichosis found in the tropics.

- *Hemispora stellata* Vuillemin, 1906.
- *Enantiothamnus braulti* Pinoy, 1912.
- *Scopulariopsis blochi* Matruchot, 1911.
- *Cladosporium madagascariense* Verdun, 1913.
- *Acladium castellanii* Pinoy, 1916.

→ Various types of gummatous and ulcerative affections.

VIII. Due to fungi of the genera *Aspergillus* Micheli, 1725, *Sterigmatocystis* Cramer, 1869, *Madurella* Brumpt, 1905, *Indiella* Brumpt, 1906, *Nocardia* Toni and Trevisan, 1889, *Cohnistreptothrix* Pinoy, 1911, *Sporotrichum* Link 1806, *Monosporium* Bonorden and Saccardo 1898, *Glenospora* Berkley and Curtis 1876.
- *Aspergillus bouffardi* Brumpt, 1906.
- *Sterigmatocystis nidulans* Eidam, 1883.
- *Madurella mycetomi* Laveran, 1902.
- *M. bovoi* Brumpt, 1910.
- *M. tozeuri* Nicolle and Pinoy, 1906.
- *Indiella mansoni* Brumpt, 1906.
- *I. reynieri* Brumpt, 1906.
- *I. somaliensis* Brumpt, 1906.
- *Nocardia madurae* Vincent, 1894.
- *N. asteroides*, Eppinger, 1890.
- *N. pelletieri* Laveran, 1906.
- *N. bovis* Harz, 1877.
- *C. israeli* Kruse, 1896.
- *Sporotrichum Schenki* Hectoen and Perkins, 1900.
- *Monosporium apiospermum* Saccardo, 1911.
- *Glenospora khartoumensis* Chalmers and Archibald, 1916.
- *G. semoni* Chalmers and Archibald, 1917.

→ Varieties of mycetoma.

IX. Due to fungi of the genera *Aspergillus* Micheli, 1727, *Penicillium* Link, 1809.
- *A. barbae* Castellani, 1907, Aspergillosis of hairy parts.
- *P. barbae* Castellani, 1907, Penicilliosis of hairy parts.

X. Due to fungi of the genera.
- *Aspergillus* Micheli, 1725.
- *Penicillium* Link, 1809.
- *Monilia* Persoon, 1791.
- *Montoyella* Castellani, 1907.

→ Pinta.

XI. Due to fungi of the genus *Trichosporum* Behrend, 1890.
- *T. giganteum* Behrend, piedra.
- Species as yet not well determined.

→ Tropical varieties of nodular trichomycosis.

XII. Due to fungi of the genus *Pityrosporum* Sabouraud, 1903.
- Pityrosporum cantliei Castellani, variety of tropical seborrhoea.

It should be clearly stated that dermatomycoses "tropical," in the strict sense of the word, are exceedingly few, as exceedingly few are internal diseases which can be called "tropical" *sensu stricto*. In a general way one may say that tropical diseases are merely diseases which are more frequently met with in the tropics than in the temperate zone.

What are the tropical dermatomycoses most common in New Orleans and Louisiana? I wish to state at once that my results are based not only on my own experience but on the researches and experience of men who have practiced in this country for many years, principally Professor Menage and Professor Hopkins, among others, and I should like to express my indebtedness to them for their generosity in placing their results at my disposal.

TINEA CRURIS (EPIDERMOPHYTOSIS).

This is well known as an extremely common condition in New Orleans, Louisiana, and all Southern States, especially in the spring, the summer and the autumn. In recent years it has become common in the Northern States and all over the Continent. It is so common that there is no need of describing it; the patches generally situated in the inguinal region with the well-marked festooned border are typical.

Among the fungi I have isolated in these cases in New Orleans are the following: *Epidermophyton rubrum, Epidermophyton cruris, Trichophyton nodoformans, Trichophyton spiculatum. T. spiculatum* is characterized by the presence of numerous spicules on the surface of the growth.

DERMATITIS INTERDIGITALIS EPIDERMOPHYTICA.

This is a localization of epidermophyton and trichophyton infections in the toes. It is extremely common in this country.

In certain cases it may be considered to be a very serious disease. The seriousness of the condition is caused not by the fungus *per se* but by the secondary bacterial invasions. It is not at all rare to find a streptococcus infection engrafted on the epidermophytic condition—and this streptococcus infection may give rise to a localized painful dermatitis with presence at times of bullae; or it may give rise to an erysipelas-like condition; it may give rise to a lymphangitis with inguinal adenitis and in the Tropics I have seen cases of generalized streptococcus infection arising in this way; repeated attacks of streptococcus inflammation at times cause at first permanent edema then a fibroid thickening of tissues indistinguishable from elephantiasis.

MYCOTIC POMPHYLIX.

This type of epidermophytosis is very common in New Orleans and of difficult cure.

PRURITUS ANI OF FUNGAL ORIGIN.

For some years I called attention to a type of pruritus ani, which is of fungal origin. The patient complains of very severe pruritus, not as a rule continuous, but at intervals. The pruritus is often worse at night, but the attacks of unbearable itching may come on at any time. The inspection of the ano-perineal region in very recent cases may reveal nothing at all except, perhaps, signs of scratching, but in most cases, on careful examination, minute, red, slightly raised, infiltrated patches may be seen in the perianal regian, occasionally arranged into two curved lines. In a number of old cases signs of dry or moist eczematous dermatitis are present, and streptococcus and other secondary bacterial infection may become very heavy. If many coli and proteus bacilli are present, the fungus may disappear completely or become extremely scarce.

With regard to treatment, an antimycotic ointment often answers well. My old dhobie itch ointment may be used, consisting of sulphur gr. 30, salicylic acid gr. 30, vaseline one ounce, or Deeks' ointment, may be employed, and is very often successful. Whitfield's ointment, to which 2 per cent carbolic acid has been added, is very useful. A fuchsin resorcinal paint is also useful. In very obstinate cases

roentgen-ray therapy is beneficial. For more details on pruritus ani of fungal origin the reader is referred to my previous publications on the subject, among which is "Pruritus Ani and Pruritus Vulvae of Fungal Origin," New Orleans Medical and Surgical Journal, pp. 625-633, vol. 79, No. 9, March, 1927.

INTERTRIGO SACCHAROMYCETICA VEL CRYPTOCOCCICA.

Some years ago in Ceylon I described a type of intertrigo usually affecting the inguinal region but occasionally other regions, armpits, etc., in which a large number of yeast-like fungi were found. I grew a yeast-like fungus which I called *S. samboni*; later cryptococci monilias and debaryomyces fungi. The condition at first is characterized by the presence of an erythematous, round or oval patch in each cruroinguinal region; the patch rapidly enlarges and sometimes may become festooned. In a later state slight exudation may take place and even a true eczematoid dermatitis may develop. Occasionally a few white spots or patches may be seen which can be fairly easily removed; these consist of masses of the fungus. With regard to treatment I have found glycerine of borax (B. P.) diluted with rose water useful; also the application of a 2 per cent permanganate of potassium lotion, or diluted Tr. Ladi.

Two types of intertrigo saccharomycetica infection may be distinguished.

The primary, as described above; the secondary, in which the saccharomycetic or cryptococcus infection develops on epidermophytic lesions.

TINEA ALBIGENA.

This condition was first observed in Java by Nieuwenhuis. It commences on the palms or soles but may extend upward to the forearms and legs, or downward to the nails. At first it appears as small itchy spots on which bullae appear which burst leaving a desquamating, itching tender area. In course of time a diffuse hyperkeratosis forms in which deep fissures indicate the natural folds, while horny semi-detached rings surround the sweat orifices. It is very chronic and in course of time leads to a depigmentation of the affected areas which appear like leucoderma patches. This condition is permanent. I have seen two cases of a somewhat similar condition due to epidermophytosis in New Orleans.

Treatment.—Apply tincture of iodine, or Whitfield's Ointment, or a 1-5 per cent chrysarobin ointment.

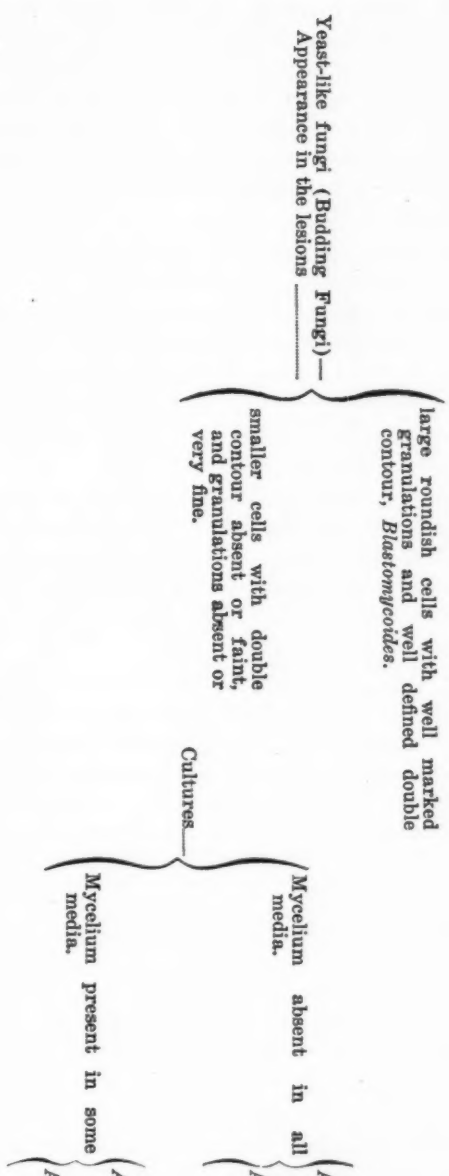
TINEA IMBRICATA.

This dermatomycosis which is so common in the Far East and certain islands of the Pacific, seems to be absent from Tropical America. The disease is of great interest clinically and etiologically. Clinically, the term tinea applied to it is hardly correct, as the condition is totally different from the usual trichophytoses and epidermophytoses.

The development of the eruption is very interesting. A small, initial brownish spot appears, generally on the arms, chest or back. After a few days this spot splits in the center, and in this way a ring of large, flaky scales is formed, with their bases at the periphery of the lesion; this scaly ring expands peripherally, and while it does so, another brownish spot appears in the center, at the same site as the first brown spot; this new brown patch also breaks in the center, and in this way a second scaly ring is formed inside the second; and so on, until a number of scaly rings are developed.

Manson aptly compared this development of concentric rings to the concentric ripples produced by a pebble thrown into a pool of water.

In very many cases however the eruption becomes diffuse and no rings are seen. The scales are flaky, tissue-paper-like, of large size, up to ½ inch in length, dry, and of a dirty greyish, or brownish color. In my experience, the fungus never invades the hair follicles, but it often invades the nails.


Yeast-like fungi (Budding Fungi)—
Appearance in the lesions
large roundish cells with well marked granulations and well defined double contour, *Blastomycoides*.
smaller cells with double contour absent or faint, and granulations absent or very fine.
Cultures
Mycelium absent in all media.
Ascospores absent, *Cryptococcus*.
Ascospores present, *Saccharomyces*.
Mycelium present in some media.
Ascospores absent, Monilia.
Ascospores present, *Endomyces*.

TINEA INTERSECTA.

The eruption begins as small, roundish or oval dark brown pruriginous patches generally situated on the arms, legs, chest or back. The surface of these patches is darker than the surrounding skin with a border composed of minute black papules. Later the tense surface dries, shrivels and cracks, producing white lines ntersecting the dark brown patch. Later, when the cracks deepen, curled-up scales, white internally and brown externally, appear. When these scales are removed white patches are left. The brown patches may remain isolated or may fuse together, forming large irregular areas. At times some patches may disappear spontaneously.

The health of the patient is never affected, but there may be a slight eosinophilia.

BLASTOMYCOSIS.

The term blastomycosis covers a group of affections caused by yeast-like fungi. The botanical description of these fungi I have given in previous papers, and it may be found also in Castellani and Chalmers' Manual of Tropical Medicine, third edition, chapters on fungi. Here it may be sufficient to mention a simple classification I have introduced for the use of clinical pathologists:

Of blastomycoides (blastomyces) there are certainly several species. By using mannitol and lactose agar three fungal types can be differentiated fairly easily: *immitis* type, *dermatitidis* (or *Gilchristi*) type, *tulanensis* type. After two to three weeks at 26° the cultures of the immitis type are slate black on mannitol, greyish on lactose; the cultures of *dermatitidis* are greyish occasionally slate black on mannitol, dark brown or slate blackish on lactose; the cultures of *tulanensis* are white both on mannitol and on lactose. The fungi should be grown in large tubes.

I have suggested the following clinical classification of the various types of blastomycosis:

1. Blastomycosis, *Gilchrist type*, very commonly found in this country, in Africa, in Asia, very seldom in Europe, characterized by the presence of the well known elevated warty patches with micro-abscesses or well defined oval or round ulcers with granulating or papillomatous fundus, and violaceus border.

2. Blastomycosis, *Wernike-Posadas* type (Coccidioides type). In addition to the warty or fungating patches deep destructive ulcerative processes develop. It is principally found in South America where the condition often affects the oral mucus and pharynx. Cases have been found in California.

3. Blastomycosis *sinus forming type* (Blastomycosis glutealis). This generally attacks the tissues of the buttock and is characterized by the presence of numerous sinuses. It is found in Egypt, Ceylon, China.

4. Blastomycosis, *furunculosis type*. Clinically this is indistingushable from severe furunculosis. It often affects the scalp producing a suppurative folliculitis (folliculitis cryptococcica decalvans). The yeast-like fungi found in this type probably belong to the genus monilia (see Gehrman Lectures for 1926, University of Illinois).

The types I have so far found in New Orleans are. 1. Gilchrist type, several cases. 2. Furunculosis type, one case. I saw a typical case of the coccidioides type in Chicago last year—thanks to the kindness of Professor Davis of the Illinois University.

SPOROTRICHOSIS.

This dermatomycosis, although considered to be tropical by several authorities, was, as well known, described first in America by Schenk. The invading organisms may produce in the skin:

(1) A sporotrichic chancre and lymphangitis; this is the localized form.

(2) A series of disseminated gummata.

(3) A series of disseminated ulcers, some resembling syphilitic lesions, other tubercular, or furuncular, and others echthymatous.

In additon the fungi may invade the internal organs and cause lesions in mucous membranes, bones, joints, muscles and vscera. I have seen several cases in Europe, India, Central America and in Chicago but so far not in New Orleans.

ACLADIOSIS.

All over the body may be seen sharply defined, roundish or oval ulcers with red granulating cases with or without a purulent secretion which dries into thick yellow crusts. In addition, gummata-like nodules and boil-like lesions may be seen, and enlargement of the superficial lymph glands may be observed. Sometimes the blood shows a slight eosinophilia. Cases with purulent secretion show leukocytosis and suffer from fever at night. This condition first described by me in Ceylon some years ago has not yet been described in America. It is caused by a fungus of the genus Acladium: A castellanii Pinoy.

MYCETOMA.

Mycetoma, Madura foot, is characterized by the presence of granulomatous nodules and of sinuses in the foot, occasionally in other regions of the body. From the sinuses a certain amount of pus exudes which contains granules of different color, white, yellow, red, black. Madura foot, though rare, occurs in this country. Cases have been described by several observers.

PARAMYCETOMA.

Paramycetoma is clnically identical with mycetoma, but in the pus no granules are found, the fungi causing paramycetoma not producing sclerotia.

PSEUDO MYCETOMA.

Pseudo-mycetoma is clinically very similar to true mycetoma, the foot being deformed and presenting numerous nodules and occasionally sinuses, but the condition is not of fungal origin. Very often it is a late manifestation of yaws.

TINEA FLAVA.

This condition is characterizel by the presence of bright yellow, roundish or oval, patches on the skin of the face, neck, chest and abdomen and arms. A very large number of the natives of the low country of Ceylon and of many other tropical countries, are affected. Sometimes the patches coalesce, giving rise to the diffuse form of the disease. Occasionally, in Ceylon and Southern India, one is surprised to see a Singalese or Tamil native with the face, chest and trunk of much lighter color than those of the other natives. On closer examination it will often be found that the apparently light color of the skin is merely due to a diffuse form of a very light variety of tinea flava. Scrapings from the patches reveal presence of a fungus with the characteristics of a malassezia, and morphologically very similar to the fungus found in pityriasis versicolor of temperate zones. In fact, until recently tinea flava was considered to be identical to tinea versicolor.

I separated it from tinea versicolor for the following reasons:

1. Tinea flava is of much lighter color.

2. It affects the face more frequently than any other part of the body, while tinea versicolor is practically never found in that situation

3. It is extremely chronic, developing in early childhood and lasting for life.

4. It is difficult to cure, while tinea versicolor responds to treatment very readily.

Tinea flava occurs in New Orleans and Louisiana.

TINEA NIGRA.

This dermatomycosis is characterized by the presence of jet-black patches due to a fungus of the genus *Chladosporium*, which I called *C. mansoni* in honor of Sir Patrick Manson. This fungus is fairly easily grown on sugar media, giving rise to black colonies. In some tropical countries the condition s fairly common in natives, but may be found also in Europeans as shown by the following case: A European medical man went to Burmah from Ceylon for a pleasure trip. On coming back to Ceylon he noticed a roundish, very slightly elevated black spot on the palm of his left hand. This spot slowly increased in size for two months, becoming the size of a dime. A single application of formalin made it disappear, but three months later it reappeared. A second application of formalin cured the condition permanently. From the patch, before treatment, cultures were made and a chladosporium was isolated identical to the fungus found in native cases.

CRYPTOCOCCOSIS EPIDERMICA.

The condition is characterized by the presence on the arms, legs, chest and neck of roundish patches of a dirty yellow-brownish color. They consist of enormous numbers of blastomyces-like fungi of various size, which have not yet been cultivated. I saw a case in this country last year.

Closely allied to this condition are *cryptococcosis alba* and *cryptococcosis rosia*: in the former whitish patches are found on the skin composed of enormous numbers of usually cultivable cryptococcus, saccharomyces, debaryomyces, moniliie; in cryptococcosis rosea, which is extremely rare, budding organisms are found which on artificial medica produce pink or red colonies.

PINTA.

Pinta is a disease common in Central America and certain parts of South America. It is characterized by patches on the skin of various color, yellow, black, bluish black, and white, leucodermic-like. As I have stated in previous publications the so-called yellow pinta is in all probability tinea flava. (See Journal of Tropical Medicine, London, January 1st, 1925.)

TINEA CAPITIS TROPICALIS.

It is interesting to note that in tropical countries ring worm of the scalp as a rule is less frequently met with than in the temperate zone. Certain types of tinea capitis are caused by the same fungi which cause

the condition in temperate climates. Certain types, however, are caused by mycetes which apparently are seldom found outside the tropical belt. I will limit myself to describing briefly the following two types: Tinea decalvans and tinea capitis due to *T. louisianicum.*

Tinea decalvans.—This condition I described in Ceylon some years ago. Recently it has been found by Ota to be quite common in China. In the first stage of the disease numerous patches are seen on the scalp covered with an enormous number of heaped up white scales. Later the scales disappear, the hair falls off and the patches remain bald permanently. The fungus I found in these cases I thought at first was a variety of *Trichophyton violaceum* of Bodin, but Ota believes that it is a separate species, at least biologically. The description of this fungus (Trichophyton decalvans) may be found in previous publications of mine, among which the Gehrmann Lectures, etc. It may also be found in Castellani and Chalmers' "Manual of Tropical Medicine," p. 2075. So far I have not found it in New Orleans.

TINEA BARBAE TROPICALIS

Tinea barbae is not very rare in New Orleans. Recently I saw a case from which a fungus was isolated very similar or identical to *T. nodoformans* which was first isolated in Ceylon. In this case my method of injecting ether and a mixture of absolute alcohol and ether in equal parts into the nodules induced a rapid cure.

TINEA UNGUIUM TROPICALIS

Two types can be separated, a type due to Epidermophyton, Trichophyton and Endodermophyton fungi, and a type due to fungi of the genus Aspergillus and genus Penicillium. Cases of the latter type have been observed in various countries by Brumpt, Ota, Johns and myself.

Tinea capitis due to Trichophyton louisianicum.—A type of trichophytosis not rare in New Orleans is one caused by the fungus which I have called *Trichophyton louisianicum.* The fungus may attack the scalp and hair as well as occasionally the glabrous regions. So far, I have seen it only in colored children. The lesions are generally superficial. One or several roundish or oval patches denuded of hair are seen on the scalp, the surface is smooth or there may be some pytiriasic squammae, they are not limited as a rule by a raised border, no true "stumps" are seen. The fungus is seldom present in large amount: it may be found at times in scrapings from the patch: it may be present also in the hair in the intrafollicular portion inside or outside or both. When the glabrous parts—usually the neck—are attacked, oval or roundish whitish patches are seen with pityriastic desquamation; an interesting point is that at times a large number of yeast-like organisms are present in addition to the trichophyton fungus, and it is quite possible that the white appearance of certain patches may be due to the presence of the yeast-like fungus; by mycological cultural methods both organisms may be grown; the yeast-like organism is grown much more easily than the trichophyton fungus.

A *moist variety* caused apparently by the same fungus is also met with; in this variety the patches show thick crusts rather than scales and the condition may be mistaken with a form of seborrhoea on which a pyogenic infection has become engrafted. As this fungus is very little known I may repeat here the description of its cultural characteristics.

Acid glucose agar 4 per cent.—In fully developed cultures three to six weeks old a fairly abundant growth is noted with a central white portion consisting of white duvet springing up from a rather hard mass; the peripheral portion of the growth is yellowish; the submerged portion, viz., the portion growing deep into the medium frequently shows one or two or several spots of reddish, or brownish-reddish color, the reddish color is usually absent in very young cultures. When large tubes are used and the medium is not dry, the growth often shows a beautiful border of a deep yellow-reddish color, the color of the skin of a tangrin.

Acid glucose agar prepared with peptone water instead of broth.—The appearance of the growth is identical with that observed in cultures on glucose agar prepared with broth, but the yellow color is at times much more marked.

Neutral glucose agar 1 or 4 per cent.—Growth less vigorous; central white knob; periphery whitish or yellowish.

Casein Digest agar 3 per cent.—Growth fairly abundant, covered with white duvet—portions of submerged growth may be reddish or yellowish-reddish.

Acid maltose agar 4 per cent (Sabouraud's medium).—Appearance somewhat similar to that noted in glucose agar cultures, but growth less abundant and yellow color much less marked—or may be absent.

Sabouraud's medium (modified).—This medium contains in addition to maltose a small amount of glycerine. The fungus grows well on it and the yellowish color is very evident.

Gelatin agar.—Knobby growth, tending to be almost cereberiform, covered with white duvet—peripheral portion may be yellowish.

Glycerine agar.—The fungus growth profusely; the growth is white with at times a yellowish tinge.

Gelatine.—The fungus slowly liquefies gelatine; usually liquefaction begins on the third or fourth day.

Sugar media.—No gas is produced in any sugar. A slight amount of acidity is occasionally present in levulose and a few other sugars after three weeks incubation.

Microscopical examination of preparation from cultures.—Until recently no "fuseaux" had been found but a few weeks ago they were found in some old cultures. They are elongated, fusiform structures with a number of septa. The apex does not show any hair-like process. Temporarily I have placed the fungus for convenience sake in the genus *Trichophyton*, section *incertae sedis*. With regard to macroscopic features, the fungus must be separated from the following organisms: *Trichophyton sulphurem, Microsporum flavescens, Trichophyton ochraceum, Trichophyton flavum.*

In contrast to *T. sulphureum* there is no speckled appearance and the cultures are not crateriform; moreover in fairly old cultures reddish or brownish-reddish spots are often seen in the submerged growth; with regard to *M. flavescens* described by Horta in Brazil, 1912, it appears it was microscopically a typical microsporum fungus; with regard to macroscopic features, the whole growth including apparently the center was of a yellow color; *Trichophyton ochraceum* and *Trichophyton flavum* give rise to cerebriform colonies.

PIEDRA

This is a disease found in certain parts of South America and America, principally in Columbia. It is characterized by the presence of small hard nodules on the hair of the scalp. The nodules are composed of large numbers of mycelial spores of fungus belonging to the genus *Trichosporum.*

ASPERGILLOSIS AND PENICILLIOSIS OF THE BEARD

The hairs of the beard and mustache are covered with minute, dark-grayish, or black, or greenish nodules, which on microscopical examination are seen to consist of mycelium and fructifications of an aspergillar or penicilliar type. I saw the first case in Equatorial Africa, in 1902, in an Indian Merchant; later Chalmers and I came across several cases in Ceylon. The simplest treatment consists, of course, in shaving, but if the patient objects to it, turpentine and diluted formalin will be found useful.

TRICHOMYCOSIS AXILLARIS FLAVA, RUBRA AND NIGRA

This condition has been partially known for many years under the term *Lepothrix*, but the various types of it were not differentiated, and nothing definite was known about the etiology, the affection being ascribed to the most diverse germ. Eisner, for instance, considered it to be caused by a diplococcus; Payne, Patterson and Peck inculpated various bacilli, including *B. prodigiosus.*

The condition is characterized by the presence, on the hairs of the axillary regions and occasinally the pubes, of small nodular formations which, from my experience, may be *yellow* or *red* or *black.* I therefore differentiated 3 varieties of the condition—*Trichomycosis axillaris flava, T. axillaris rubra, T. axillaris nigra.* According to my researches, *T. flava* is caused by a fungus of the genus *xocardia,* which I called *N. tenuis.* The red variety is caused the same fungus plus a red-pigment-producing coccls, which I isolated and cultivated in

various media, and which Chalmers and O'Connell called Micrococcus Castellanii. Very rarely instead of this coccus a red pigment producing cryptococcus is found: C. rubrorygosus. The black variety, *T. nigra*, is caused by the same nocardia (*N. tenuis*) plus a black-pigment-producing coccus, which I isolated and called *N. nigrescens*. Exceptionally instead of the coccus a black pigment producing cryptococcus is present: *C. metaniger*.

It is interesting to note that natives, especially African natives, seem to regard *T. axillaris* with disgust, and readily seek treatment, and Chalmers and O'Connell brought forward the hypothesis that the general custom of shaving the armpits among certain native tribes may have originated in their profound dislike of this complaint.

As regards treatment, I found in Ceylon that 1 per cent formalin lotion applied to the armpits several times a day, and sulphur ointment at night, answered well. In New Orleans Trichomycosis flava is quite common; cases of Trichomycosis rubra occur; T. nigra is very rare.

CONCLUSION.

A number of tropical dermatomycoses occur in New Orleans and Louisiana, some of them being quite common.

DISCUSSION.

Dr. Menage: I hope you all understand all about the mycology of diseases of the skin. Dr. Castellani has made it so plain that nobody can leave this room without feeling that it is as simple as it is interesting. Personally, since the advent of Dr. Castellani here, I feel that I am suffering from a mycology complex. I thought I knew enough skin diseases and could recognize a ring worm of the body but at this moment you might compare my predicament to that of a kindergarten pupil given a telescope by an astronomer and shown the beauties of the milky way. I am indeed fortunate to have only five minutes to discuss his paper.

Among the diseases the general practitioner often sees and which sometimes taxes his patience beyond endurance, are what appear to be ordinary boils. A certain proportion of those refractory cases has been shown by Professor Castellani to be of a more serious blastomycotic type, offering thereby a means of getting rid of a most troublesome condition to the patient. Many of the generalized infections which we have been labeling as staphylococal are found to be mycotic in origin.

This type of dermatomycosis which interests us most in New Orleans, and should every medical man in general practice is the Epidermophytosis Inguinale, the old time Dhobie Itch of the Spanish American War. Recently we received a communication from Washington on account of a disabling condition of the hands and feet among the employees of the government. An investigation followed this communication and a report entitled "Mycoses of the hands and feet" in which the writers (C. S. Butler, J. E. Houghton, and G. F. Cooper) report from eighteen to thirty per cent of the men investigated in the various services of the government (Marines, Navy, Hospital corps, etc.) had mycoses of the hands and feet. In New Orleans we have been seeing a great deal of this infection. In one of the public institutions which I serve as dermatologist, my monthly report of the men coming to me with skin diseases, show that from fifteen to twenty-five per cent have diseases of the hands and feet mostly of that type. It would be safe and fair, I believe, if the general practitioner (with no laboratory means at his command) considered seventy-five per cent of all skin diseases of the hands and feet that come to him as parasitic and treated them accordingly.

The rather persistent depigmentation caused by Tinea flava shown by the Doctor is very interesting and curious and it occurs to me facetiously that if the Doctor could inoculate cases of chloasma with his Tinea flava he may cure some of those poor victims of the gynecologist and dermatologist and claim their everlasting gratitude.

Dr. Castellani (closing): The remarks made by Professor Menage are of great interest.

With regard to the boils, I quite agree with Professor Menage that in certain cases so-called furunculosis is not a staphylococcus infection; it is a cryptococcus infection. True, you find the staphylococcus always present in most of the lesions, but the staphylococcus is a secondary invader, not the true etiological agent, and it seems to me that this is proved by the fact that if potassium iodide be given in a case of staphylococcus furunculosis the patient gets worse, but if you give potassium iodide in a case of furunculosis of myetic origin, the eruption will disappear.

With regard to the tinea epidermophytica of the toes, I am in complete agreement with Professor Menage. It is a condition of very great practical and, as he said, economical importance. What makes the condition very serious in certain cases in my opinion is not the fungus *per se*; it

is the secondary bacterial infections. It is the streptococcus infection engrafted on the epidermophytic condition which will give the dermatitis which often is found between the toes, sometimes with vesicles. Sometimes it will cause a lymphangitis. Sometimes it will cause a condition which cannot be distinguished from ordinary erysipelas and rarely it may give true streptococcus sepsis. Moreover in patients who have been suffering from epidermophytosis for years, both between the toes and in the scrotal region, and in whom there is a secondary streptococcus infection may present attacks of fever from time to time, streptococcus fever, with an edamatus condition of the leg which at first disappears. Then later on the edematous condition remains permanent, then induration of the tissues develops and you have a condition which cannot be differentiated from elephantiasis.

It seems almost impossible that a case of epidermophytosis may turn into a case of elephantiasis, but still, indirectly, through secondary streptococcus infections, a pseudoelephantiasis condition develops distinguishable from true elephantiasis. As a matter of fact, we have a typical case here in New Orleans now.

I should like to call attention to a condition of the epidermophytic origin which is not found in any textbook. I mean pruritus ani and pruritus vulvae of mycetic origin. There are a number of such cases which are caused by fungi. In these cases very often, at least in the beginning, you will find no objective lesions of any kind, perhaps a few scratches. Later on the skin around the anus becomes thickened and eczematoid. It is epidermophytosis of the anal region. These cases never get well unless the same measures are used as for epidermophytosis of the toes. My old sulphur salicylic ointment answers sometimes very well.

REVIEWS

RETICULO-ENDOTHELIAL SYSTEM IN DISEASE.*

RUSSELL C. PIGFORD, M. D.†

NEW ORLEANS.

E. B. Krumbhaar[1] in an address before the New York Academy of Medicine in 1923 stated, "It is convenient and desirable, from a practical point of view, to consider all diseases of the blood, but especially the so-called 'primary anemias' from the dynamic standpoint of the constant interplay of the blood-forming and blood-destroying apparatus (which may be termed the hemolytopietic system) and the adjustment thereof spoken of as the hemolytopoietic balance."

"A steadily accumulating mass of evidence is forcing us to recognize that bone marrow, lymph nodes, spleen, liver, and the whole reticulo-endothelial apparatus must be considered as definite a mechanism for the control of cellular elements of the blood as the digestive or endocrine systems are in their respective spheres." Thus the newer conception of the reticulo-endothelial system would not be limited to that group of cells that is engaged in the destructive processes of the blood, but must also include a consideration of the elements involved in the productive processes.

In the normal individual, there is a constant production within physiological limits, of red blood cells, leukocytes, and platelets by the bone marrow. On the other hand, there is a constant destruction of red blood cells by the reticulo-endothelial cells scattered throughout the various organs of the body. In this destruction of red blood cells the reticulo-endothelial cells, in a manner that is not at present understood, play a part in the production of biliary pigment. Rous and Drury[2] have found that the amount of bilirubin present from day to day in the bile yielded by animals with intubated common duct constitutes an immediate, if not entirely accurate index to the amount of blood destruction, whether this be in part the consequences of pathological influences or

*Second paper of the symposium on the Reticulo-Endothelial System, presented at a meeting of the Orleans Parish Medical Society, March 26, 1928.

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merely the result of ordinary corpuscular wear and tear. Thus, a balance is established between the hemopoietic and hemolytic activities and an estimation of the hemolytopoietic balance at a given instant, Schneider[3] has referred to as the hemopoietic-hemolytic index.

As stated above, there are physiological limitations of the activities of the hemolytopoietic system. Any deviation from these limitations, whether above or below normal, must be considered pathologic. The pathogenesis is not always as evident as the pathologic picture. For instance, a leukopenia may be present in a given disease, but the manner of production of that leukopenia may be not at all clear. Such a leukopenia may be the result of the paralytic action of toxins on the hemopoietic cells in the bone marrow or it may result from an increased destruction of the circulating leukocytes by the toxins. On the other hand, an increase of any or all of the blood elements in the circulation cannot at a given instant be considered a result of the stimulaton of this or these elements by toxins. It is a physiological fact that relatively few of the capillaries are functioning at a given instant and the blood cells are constantly hidden in the closed capillaries. As a result of such a simple mechanism as exercise some of the latent capillaries begin to functionate and a physiological leukocytosis ensues.

The reticulo-endothelial system is credited with a variety of responses to abnormal stimulation. The cells act as scavengers for foreign bodies, such as anthracotic pigments in the lungs. The function of ingestion of bacteria and necrotic material in the body, the formation of proteolytic enzymes and the development of anti-bodies are attributed to this elaborate system. The scope of this paper will purposely not include these phases. Instead, a consideration of the relation of the reticulo-endothelial system to toxic reactions, metabolic disturbances, and blood dyscrasias will be discussed.

METHODS OF EXAMINATION.

I. BLOOD.

Cytological: In the diseases of the reticulo-endothelial system the blood is the most valuable laboratory information we have at present. The color index is of elementary importance in any study of blood dyscrasias. A high color index is indicative of a primary anemia, although a long standing secondary anemia may produce a color index of 1.2 or over. In the blood smear the degree of anemia is roughly estimated by the number of anisocytes, poikilocytes, basophilic stippled cells, erythroblasts and percentage of reticulated (embryonal) cells present. The estimation of the red cell diameters is of importance in differentiating between some of the anemias. Unfortunately, the estimation of the percentage of reticulated red cells has been a neglected field in the study of blood dyscrasias. The technic is very simple, requiring only a few minutes of the examiner's time and often giving invaluable information of prognostic as well as diagnostic importance. The leukocytic picture is not to be neglected. A leukopenia is the rule in primary anemias. A normal leukocytosis is the rule in secondary anemias. However in the anemia of hemorrhage a hyperleukocytosis occurs, and this is roughly proportionate to the severity of the hemorrhage. The three types of polymorphonuclear leukocytes, because of their origin in the bone marrow and their reaction to a quite simple staining phenomenon, are termed granulocytes. The peroxidase stain for the differentiation of these marrow cells and the non-granulocytes is at time of value in the identification of obscure cases of leukemia.

Platelets: The study of the platelets is another somewhat neglected phase of the blood picture. After moderate practice in the study of blood smears one can usually estimate, though in a general way, the number of platelets in the blood. For more accurate study, however, the direct or indirect method of estimation is to be pre-

ferred. The clinical importance of these elements will be referred to later.

Fragility: The resistance of the erythrocytes to hypotonic salt solution is of importance in differentiating between hemolytic and non-hemolytic jaundice. The principle is based upon the ability of the red blood cells to resist dissolution when placed in hypotonic solutions of sodium chloride of graded strengths. Recently a method of studying the fragility of the red blood cells to hypotonic blood serum has been described with the hope that some of the obviously atypical conditions may be explained on this basis. However, this study is as yet of doubtful value. Cholesterol has definite anti-hemolytic properties. In pernicious anemia, Gorham and Meyers[4] found low cholesterol values. Since the resistance of the red blood cells to hypotonic salt solution is unaltered in some cases of pernicious anemia, it would be interesting to note the relationship of the cholesterol values of the blood to the fragility of the red blood cells. The writer is not cognizant of any such observation.

Bilirubin: Ehrlich found that bilirubin dissolved in chloroform or alcohol and mixed with diazonium salts gave in a neutral medium a reddish, and in an acid medium a bluish color. This reaction he termed the diazo reaction. Hijmans van den Bergh in 1913 first applied this principle to the albuminous fluids, having developed a technic of identification of bilirubin in minute amounts. From his studies he found: first, that bilirubin is normally present in blood serum in a concentration of one to four hundred thousand to one to two hundred and fifty thousand; second, that in cases of jaundice there was an increased intensity of the reaction comparable to the degree of jaundice; third, that in certain types of jaundice the reaction was negative when applied to whole serum, but was positive when applied to serum freed from its proteins by alcoholic precipitation. To the test with whole serum he gave the name, direct, and to the protein free reaction he gave the name, indirect.

This phenomenon was not popularized for several years, when in 1922 McNee[5] first recorded in English literature observations made with the test.

Whipple and Hooper[6] found that bile pigment formation continues after removing the liver, spleen, and intestines from the circulation, and that this bile pigment increased after the administration of a hemoglobin solution into the blood stream.[7] They suggested that this biliary formation was due to the activity of the endothelial cells lining blood vessels. These observations together with the study of the van den Bergh reaction led McNee[8] to accept the idea of the important role of the reticulo-endothelial system in formulating a new theory relative to the mechanism of the production of jaundice that more nearly conforms to the clinical and pathological types of icterus. Considerable doubt as to the specificity of the van den Bergh reaction arose when Andrewes[9] found that in certain cases of uremia showing a hypobilirubinemia the diazo reaction was positive. Nevertheless, Mann *et al.*[10] by a spectrophotometric method was able to confirm the earlier observations on the site of bilirubin formation. The present view regarding the subject of bilirubin formation is that the reticulo-endothelial cells throughout the body play an important role in the formation of bilirubin, that the bilirubin is carried to the liver as an unfinished product, and in passing through the liver cells is changed to a finished bile pigment; that in diseased condition there is an alteration in this function depending upon the type of cell involved in the disease process. For present purposes it may be said that the intensity of the indirect van den Bergh reaction indicates the amount of bilirubin formed by the reticulo-endothelial cells, and this in turn is an index of red blood cell destruction whether normal or pathologically increased. The van den Bergh test, because of its sim-

plicity and its value in a large majority of cases, will continue to be the most valuable clinical procedure for differentiating hemolytic and non-hemolytic jaundice, and for the detection of latent jaundice in the hemolytic anemias.

II. FECES AND URINE.

The fces and urine offer limited opportunity for observations on the clinical features of the reticulo-endothelial system. The presence or absence of bilirubin in the stools is of importance in the detection of complete obstruction to the bile passages and then for a limited time only. Elman and McMaster[11] have shown in dogs that five days following complete obstruction of the bile ducts urobilin reappears in small quantities in the stools. This would suggest that in cases of complete obstruction, bile escapes into the intestinal tract by way of the blood stream. In cases of obstructive jaundice, the kidney threshold for bilirubin is low. Therefore, the study of the urine is of material benefit in the early diagnosis of this condition. However, McNee[8] calls attention to the fact that in latent hemolytic jaundice at least four van den Bergh units of bilirubin must be present in the blood before biliuria is evident. Thus, the van den Bergh reaction is of greater value than the study of the urine in this type of jaundice.

REACTIONS IN INFLAMMATORY DISEASES.

The reticulo-endothelial system responds in different ways to the advent of toxins in the human host. In a general way it may be said that in acute inflammatory processes there is a stimulation beyond physiological limits of the leukocytic elements with a resulting hyperleukocytosis and an increase in the neutrophilic polymorphonuclear cells. This increase is absolute as well as relative. Furthermore, it is noted that the neutrophilic increase is concomitant with a relative or absolute reduction in the eosinophilic polymorphonuclear cells (Simon's septic factor).

In contrast to the hyperleukocytic diseases there is a group of diseases in which the total leukocytes are strikingly reduced with a diminution in the granulocytic (neutrophilic, eosinophilic and basophilic) elements with a relative if not an absolute increase in the non-granulocytic (mononuclear) cells. The most striking example of this leukopenic response is that of typhoid fever, which has been characterized as primarily a disease of the reticulo-endothelial system. This disease is marked by a leukopenia with an increase of large mononuclears. It will be recalled that the popular conception of the origin of the large mononuclear cells is in the endothelial linings of the vascular system. Histological studies of typhoid fever demonstrate further the proliferation of the large endothelial cells by the finding of the phagocytic cells of Mallory in the capillaries of the liver, spleen, and other organs. In dengue fever and kala azar, a leukopenia with an increase in the large and small mononuclears is seen. In influenza a leukopenia is the rule, while in malaria there is a tendency to a leukopenia with an increase of the large mononuclears. Measles is another disease in which leukopenia is seen. In Rocky Mountain spotted fever a hyperleukocytosis is observed with an increase of the large mononuclears. In this disease the monocytes are frequently the site of phagocytized red blood cells.

In recent years a syndrome has been described in women about the age of forty, marked by an acute onset, with a localized angina of the mucus membranes free from Vincent's organisms, running a four or five day septic course, and terminating fatally, in which the blood picture is striking. There is a progressive leukopenia with a diminution of the granulocytes for which the syndrome is named agranulocytic angina. The possible cause of the disappearance of the polymorphonuclear leukocytes from the circulating blood will not be discussed. It will suffice to note that before death the total leukocyte count has been seen to fall as low as 250.

Leprosy cannot be considered a disease of the reticulo-endothelial system. How-

ever, it is interesting to note that the typical leper cell is an endothelial cell within which are seen large numbers of Hansen's bacili. These may be demonstrated in sections or in scrapings of the leprous lesions.

In chronic suppurative conditions the formation of amyloid has been a matter of speculation among pathologists. Mallory[12] states regarding the pathogenesis that, "It is not a product of degeneration of cells of fibril or something filtered out of the blood stream. Instead it is a deposit in tissues manufactured out of normal constituents of the blood by cell activity." He believes that the fibroblast is involved in the formation of amyloid. On the other hand, Smetana[13] in a study of the relation of the reticulo-endothelial system to the formation of amyloid found: first, the appearance of amyloid in places where reticulo-endothelial cells are normally present; second, the formation of amyloid early in small solitary patches suggesting its local formation; third, the occurrence of solitary patches of amyloid apparently located within the capillaries of the liver; fourth, the manifold relations between reticulo-endothelial cells marked out by phagocytized ink granules and amyloid; fifth, the impossibility of demonstrating reticulo-endothelial cells in areas forming amyloid; sixth, the delayed appearance of amyloid in animals after blockage of the reticulo-endothelial cells by repeated injection of India ink. These observations strongly suggest a relationship of the reticulo-endothelial system to the formation of amyloid.

The leukocytic phase of malaria has previously been referred to. The fact that a large spleen is always associated with malaria has been a subject of speculation for a possible disturbance of reticulo-endothelial physiology. The enlargement is due, in part, to the great accumulation of endothelial leukocytes filled with red blood cells and blood pigment. The hemolytopoietic balance is disturbed as a result of increased red cell destruction manifested clinically by an anemia of the secondary type, a hemolytic jaundice and a urobilinuria. As convincing evidence of the hemolytic type of jaundice the indirect van den Bergh is positive. Occasionally, however, in chronic malaria Hughes[14] has noted that the direct van den Bergh is biphasic, which would indicate that in addition to a hemolytic jaundice, there is present a toxic process involving the liver cells.

METABOLIC DISEASES.

In disturbances of fat metabolism,[15][16] the reticulo-endothelial system shows definite evidence of activity. In the lipemia of diabetes mellitus the spleen is swollen and tender, and on section, is found to be clogged with large numbers of endothelial cells containing globules of fat.

Gaucher's disease is now classed by many authorities as a familial metabolic disorder of the lipoid elements. In the endothelial cells of the liver and the large spleen in cases of Gaucher's disease are found lipoid deposits demonstrable by microchemical methods. The persistent leukopemia is another feature of this type of splenomegaly.

BLOOD DYSCRASIAS.

Pernicious Anemia. Pernicious anemia is a disease essentially of late adult life that follows a variable course, subject to remissions, practically always fatal, and characterized by a lemon yellow skin, enlarged spleen, a megalocytic anemia of a primary type, and a leukopenia. In this disease there is a marked fluctuation in the blood picture from time to time, and this fluctuation is roughly proportional to the subjective phenomena. This is the disease par excellence for following the fluctuations in the hemolytopoietic balance. During the stage of relapse there is observed a progressive anemia with very slight evidence of regeneration as indicated by the paucity of nucleated red cells and reticulocytes in the peripheral blood. Simultaneously with the progressive anemia the fragility of the

red cells is increased and there is increased bile pigment (indirect van den Bergh) in the blood stream, an increase of stercobilin and a urobilinuria. During the period of regeneration, that is, when the hemopoietic phase is active and the hemolytic phenomena are relatively quiescent, large numbers of erythroblasts and reticulated cells appear in the blood, the resistance of the red cells increases, and the van den Bergh reaction approaches normal. In fact, all the features of the disease may disappear and the patient enjoy apparently perfect health for a variable period of time.

Banti's Disease. The large spleen of Banti's disease with the increased number of macrophages and endothelial cells together with increased amount of blood pigment are indicative of a hemolytic process in this disease. The anemia, however, differs from that of pernicious anemia in that it tends to a chlorotic type with a tendency to a microcytosis. Except after severe hemorrhages when there is marked stimulation of the bone marrow, the hemopoietic tissues show relatively little activity as evidenced by the presence in the circulating blood of few erythroblasts and reticulocytes. There is no striking alteration in the resistance of the red blood cells in this disease. The hemolytic nature of splenic anemia is manifested by increased bile pigment in the blood (indirect van den Bergh) and an increase of urobilin in the feces and at times a urobilinuria. It might be said in this connection that after the periportal cirrhosis of the liver has progressed to the stage of liver cell damage, the direct van den Bergh may become positive. A leukopenia is the rule, although hyperleucocytosis may be observed after hemorrhage. Rosenthal[17] divides Banti's disease into two groups according to the platelet count. In one group he finds a thrombocytopenia and in another a thrombocythemia. He believes splenectomy is beneficial in the first group, while in those cases showing an increased platelet count, no improvement is noted.

Hemolytic Jaundice. Hemolytic icterus is manifested by jaundice, splenomegaly, a severe anemia of the hemolytic type and increased fragility of the red blood cells. At certain periods of the disease there is marked similarity to pernicious anemia. In the blood smear of hemolytic jaundice, however, the extreme activity of the bone marrow as reflected in the finding of enormous numbers of erythroblasts and a reticulocytosis of twenty times normal is not seen in any other disease. Furthermore, there is a tendency to a microcytosis in hemolytic jaundice in contradistinction to the megalocytosis of pernicious anemia. The engorged spleen with evidence of increased activity of the reticulo-endothelial cells, that is, the increased number of these cells with large quantities of blood pigment incorporated within the cells suggests a localization within the spleen of pathologic reticulo-endothelial physiology. As confirmatory evidence of this localization process, the relief of symptoms after splenectomy needs only to be mentioned. In pernicious anemia the evidence of blood cell destruction is not limited to the spleen, but is observed in the reticulo-endothelial cells of other organs (Kuppfer cells of the liver). This is offered as an explanation of the failure of splenectomy to relieve the symptoms in pernicious anemia.

The resistance of the red blood cells to a hypotonic salt solution is greatly diminished in hemolytic jaundice. The cause of this increased fragility is not at all understood. Since the spleen seems to be the site of the lesion, it has been suggested that the disturbance of resistance results from toxic bodies elaborated by the spleen. One would naturally conclude that removal of the spleen would result in a return to normal of the resistance of the erythrocytes. Contrary to expectation, this occurs in only about fifty per cent of the cases. Failure to return to normal in all of the cases may be a result of a partial acceptance of splenic function or a spread of the pathological lesion to other parts of the reticulo-endothelial system.

Sickle Cell Anemia. A condition closely simulating hemolytic jaundice, but differing from it in a few details is sickle cell anemia. The chief points of similarity are: the apparent familial tendency, the extreme chronicity, the tendency to exacerbation of symptoms with the appearance of a hemolytic jaundice, an increased bilirubin content of the stools with the occurrence of a urobilinuria, the presence during the exacerbation of large numbers of erythroblasts and reticulocytes, and the positive indirect van den Bergh. The differential features are: the occurrence of sickle cell anemia in the negro race (only one exception having been recorded).[18] The spleen of sickle cell anemia is diminished in size. In this connection the writer recalls an autopsy at Charity Hospital, New Orleans, in which extreme difficulty was experienced by the pathologist in identifying splenic tissue. The leukocytes in sickle cell anemia are markedly increased as high a count as 64,000[18] having been reported. The most striking difference is the occurrence in the blood stream of patients with sickle cell anemia of peculiar elongated banana shaped red blood cells. It was the finding of these fusiform cells that suggested the term sickle cell anemia to Herrick.[19] While the fragility of the red cells is constantly increased in hemolytic jaundice, reports on this feature are at variance in sickle cell anemia. In the latter, the hemolytic span varies from normal to a reduced resistance within normal range, to a reduced resistance with an increased range. Generally speaking, it may be said that there is a tendency to increased fragility of the red blood cells in sickle cell anemia.

Splenomegalic Polycythemia (Polycythemia vera). In contrast to the hemolytic diseases, polycythemia vera is a condition primarily of hyperplasia of the bone marrow involving the erythroblastic tissues, resulting in an abnormal production of erythrocytes, both qualitative and quantitative. The spleen is markedly enlarged in this disease. The enlargement is considered to be a compensatory affair, the splenomegaly resulting from an effort on the part of the spleen to destroy the increased number of red blood cells. The only changes noted in the splenic structure are a general enlargement, with marked engorgement of the blood vessels. The total erythrocytes are markedly increased, at times more than twice normal. The hemoglobin is increased but not in proportion to the red blood cells, resulting in a low color index. That there is a stimulation of the hemolytopoietic system beyond physiological limits is further evidenced by the finding of all types of red blood cell changes in the blood smear. Embryonal forms such as nucleated red cells and reticulocytes are a constant finding during the exacerbations. Polychromatophilia is noted, but the striking staining characteristic of the red blood cells is an achromia. A hyperleukocytosis with the appearance in the blood stream of immature leukocytes accompanies the hypererythrocytosis. In fact leukemic pictures have been described.[20]

The platelets, as a rule, are unaltered, but occasionally the disease process may also involve this phase of the bone marrow, resulting in an increased platelet count. The fragility of the red cells varies considerably in polycythemia. As a rule, however, there is a tendency to lengthening of the resistance range. It has been suggested by Minot and Buckman[20] that this fluctuation is due to the presence of cells of greater age variety than normal.

Increased hemolytic activity is evidenced by the large engorged spleen with an increased quantity of bilirubin in the blood and an increased stercobilin. For the reason that there is an abnormal disturbance of the hemolytopoietic balance, polycythemia vera is classed as a definite disease of the reticulo-endothelial system with the primary pathology localized in the hemopoietic structures.

Idiopathic Thrombocytopenic Purpura. The diseases previously discussed under

the title of blood dyscrasias are those of pathological changes in the reticulo-endothelial system affecting primarily the erythrocytic element. While in essential thrombocytopenia the erythrocytic and at times the leukocytic elements may be involved, nevertheless, this disease is essentially one of disturbed platelet physiology. In all cases there is a marked diminution in the number of circulating platelets, and in about fifty per cent of the cases palpable enlargement of the spleen is noted. These facts immediately suggest a relationship of the spleen to platelets in the pathogenesis of this disease. To confirm such a relationship one need only to refer to the prolific literature, reporting most favorable symptomatic results following splenectomy. What role the spleen plays in the disease is as yet a matter of speculation. Seeliger[21] in post-mortem examinations of six cases found evidence of degeneration of the megakaryocytes. He suggested that the pathology might be a localized process in the bone marrow. On the other hand, clinical evidence in splenectomized cases suggests very strongly the spleen as the primary site of perverted physiology. If the spleen is the site of increased platelet destruction, one would expect to find a return of the platelets to normal after splenectomy. This does actually take place in many cases, but in some[22] it is only temporary in spite of a disappearance of all symptoms of the disease. From this observation it may be suggested that the clinical picture is not entirely a result of a thrombocytopenia, but is in part due to other factors not yet understood.

The fragility of the red cells and the production of bilirubin are unaltered except in complicated cases.

Leukemias. Polycythemia vera has been referred to as a disease of the reticulo-endothelial system in which there is a hyperplasia of the erythroblastic tissues. Leukamias may be looked upon as hyperplastic diseases of the leukoblastic tissues in which there is thrown into the circulation large numbers of immature leukocytes. In myelogenous leukemia the lesion is localized in the bone marrow, while in lymphatic leukemia it is localized in the lymph nodes. Mallory believes the leukemias to be tumors of the leukoblastic tissue. In both myelogenous and lymphatic leukemia, splenomegaly is a part of the picture. The spleen at times reaches enormous proportion in the myelogenous type. No satisfactory explanation for the splenomegaly has been advanced. The fact that few cases are benefitted by splenectomy would exclude the probability that the spleen plays any but a passive part in the disease. In myelogenous leukemia the frequent finding of immature red cells in the blood smear without a marked anemia suggests an involvement of the erythroblastic as well as the leukoblastic tissues.

The chronic forms of myelogenous and lymphatic leukemia do not as a rule offer any difficulty in differentiation. However, there is a form of acute leukemia in which the origin of the cell cannot be determined by ordinary staining methods. The cells seen in this type of leukemia are large, embryonal, mononucleated cells. Ordway and Gorham[23] call attention to the fact that the myeloblasts and myelocytes liberate oxydizing ferments demonstrable by means of the peroxidase stain. By applying this stain to the smears it has been found that the leukocytes of many of the so-called acute lymphatic leukemias, because of the presence in the cells of the oxidizing substance, are granulocytes, therefore generically myeloid cells. This simple staining phenomenon has thus been of considerable benefit in ante-mortem classification of some of the obscure cases, usually referred to as acute lymphatic leukema.

SUMMARY.

A consideration of the role of the reticulo-endothelial system in disease must be considered as a pathologic alteration of the hemolytopoietic balance.

The various laboratory methods of determining the hemolytopoietic index are briefly discussed. The indirect van den

Bergh reaction is a valuable addition to laboratory procedures in the study of the diseases of the reticulo-endothelial system.

In acute inflammatory diseases a disturbed reticulo-endothelial physiology is manifested chiefly by an alteration in the normal leukocytic element.

In chronic suppurative diseases the reticulo-endothelial system seems to play a part in the formation ofamyloid.

The erythrolyto poietic balance is primarily involved in such diseases of the reticulo-endothelial system as pernicious anemia, Banti's disease, hemolytic jaundice, sickle cell anemia and polycythemia vera.

The thrombolytopoietic balance is disturbed in idiopathic purpura hemorrhagica.

The leukemias are placed in the category of reticulo-endothelial diseases because of the pathological alteration of the leukolytopoietic balance.

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Health Work and the Mississippi Flood.—The work of emergency relief and reconstruction in the lower Mississippi basin, which was devastated by floods in the spring and summer of 1927, affords a stirring example of what private organizations and government services can accomplish when they combine to carry out a unified plan of campaign. Twenty thousand square miles had been inundated, 250 persons drowned and 700,000 driven from their homes; the crops on two millon acres had been lost. The damage to property was put at more than two hundred million dollars. The American National Red Cross, a voluntary association in spirit and methods although semi-official in its close relations wtih the Federal Government, took the lead in relief measures. Trained workers were instantly mobilized and supplies sent forward; at the same time an appeal was made to the public for funds. The President appointed the Secretary of Commerce as a special representative in the area. The organizing genius of this official brought into one great common effort the Red Cross, the Army and Navy, the United States Public Health Service and other federal units, State authorities, local officials, the railways, the Federal Farm Loan Board, scores of private societies, and a vast band of voluntary workers. At a meeting in New Orleans in June, 1927, a program was worked out by which the United States Public Health Service, the health departments of seven States which had been affected by the flood, and local county governments were to co-operate in establishing county health organizations in 100 counties of the flooded area. The Rockefeller Foundation agreed to contribute towards this plan, which called for a total of $1,250,000 over a period of a year and a half. By the end of 1927 eighty-five counties had arranged for such organizations and the Foundation had given $200,000. A pledge to continue the co-operation through 1928 has been made.—Vincent, George E.: The Rockefeller Foundation, a Review for 1927, New York, 1928, p. 14.

NEW ORLEANS
Medical and Surgical Journal
Established 1844

Published by the Louisiana State Medical Society under the jurisdiction of the following named Journal Committee:

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News material for publication should be received not later than the twentieth of the month preceding publication. Orders for reprints must be sent in duplicate when returning galley proof.

THE JOURNAL *does not hold itself responsible for statements made by any contributor.*

Manuscripts should be addressed to the Editor, 1551 Canal St., New Orleans, La.

THE SEMI-CENTENNARY CELEBRATION.

In this number of the Journal there is published the complete account of the Fiftieth Anniversary celebration of the Orleans Parish Medical Society together with the addresses that were delivered at this meeting. The Society was indeed fortunate to have such a splendid list of speakers and to have men so well qualified to speak from personal observation and experience. The first address, a review of medical education in Louisiana by the dean of the medical profession of New Orleans, that grand old man, Dr. E. S. Lewis, is indeed authoritative, as the speaker had taught for many, many years in New Orleans, in fact from comparative youth up until a few years ago when he resigned on account of age. The early history of the Orleans Parish Medical Society is a splendid resumé in brief of the events which led to the founding of the Society and its subsequent history in its early days. Fully competent to speak as a student of medical chronicles and a notable medical historian, Dr. A. E. Fossier presents a splendid historical sketch of the organization. The charm and the appeal of Dr. G. Farrar Pattons extemporaneous address can not be appreciated as well in the cold printed words, as it was by those who had the good fortune to hear his delightful presentation. The oration of the Honorable T. Semmes Walmsley, with vigor and with power, calls attention to some of the delinquencies of the medical profession, especially in their relationship to public legislation. His statements should be accentuated fully and emphasized forcibly. If the medical profession hopes to maintain the present high standards of medical practice, it can not do it by the efforts of a mere handful of men. It requires the organized, cohesive action of the entire body medical to get behind the existing legislative acts, to work for them, to watch that they are ever borne aloft, and what is of even more importance to see that they are not stultified by the activities of cultists and faddist.

MULTIPLICITY OF MEDICAL MEETINGS.

At the recent meeting of the House of Delegates of the American Medical Association in Minneapolis, numerous resolutions and recommendations were proposed, most of which were voted down as contrary to the purposes and aims of the Association. There was, however, one resolution which it seems worth while to comment upon more than briefly. This resolution referred to the very large number of medical meetings which are held in the larger communities where there are considerable number of hospitals. As a result

of the agitation in the American College of Surgeons these hospitals have felt it necessary to hold at regular intervals staff meetings at which scientific programs were presented. It was felt by the House of Delegates of the Association that these staff meetings did much to detract from the meetings of organized medicine. They are held at frequent intervals; they are not open to the general medical public and they are essentially local. It is felt that members of the staffs of the hospitals, spending considerable number of evenings a month at these meetings, neglect to attend the regular meetings of organized medicine. By their absence they take away an important element of the Society, they weaken scientific programs, and they are not able to enter whole-heartedly into the duties which an active organization requires of its members. In addition to the factor of requiring too much time, it was felt by the delegates that it was not consistent with the purposes of the American Medical Association for its members to be obliged at the virtual command of an organization which comes in contact with only a small fraction of the medical profession to be subservient to the orders issued by this particular organization. Lastly, it was felt that the American Medical Association itself should make a thorough study of hospitals and prepare a list of acceptable hospitals.

PERNICIOUS ANEMIA.

For many years pernicious anemia has been considered entirely a hemolytic disease, a disease in which excessive hemolysis of the red cells is held responsible for the severe anemia. In view of the epoch-making discovery of the effect of liver, and to a lesser extent of kidney, upon the anemia, it will be necessary to discard our older views as to the genesis of this type of anemia. It is very difficult indeed to conceive of hemolysis itself being effected by a food factor. The mere taking by mouth of a particular type of protein should certainly have no effect on a disease which might be caused by microorganisms or hypothetical toxins in the body which destroy the red cells. It would seem more equitable then to adjudge pernicious anemia as a disease somewhat similar to or related to the so-called deficiency diseases. Liver supplies the element which the individual suffering from pernicius anemia needs. This particular food factor definitely brings about the maturation or ripening of the red sells so that they can come out into the general circulation. If they become capable of doing this or it is rendered possible for them to get in the blood stream the anemia disappears and the classical picture of this pernicious type of blood dyscrasia is gone. One of the important evidences that pernicious anemia was hemolytic in type resides in the fact that there is a very large deposition of iron in some of the internal organs. This could well be present in a type of anemia in which the red cells do not fully ripen, explainable by the fact that these cells are unable to utilize the iron in the body which is deposited in the tissues rather than in the circulating red cells. The clasmatocytic destruction of red cells in the bone marrow, shown by Peabody and Doan to be present in pernicious anemia simply is a result of the feeding of these phagocytes upon the rich pabulum of red cells which were packed in the marrow as in a tight box unable to reach the systemic circulation.

It is a remarkable fact that many of our ideas and conceptions of disease which we have thought in the past to be upon indisputable foundations, have changed materially as the result of one or two pieces of experimental and clinical observation which has escaped investigators in the past. Pernicious anemia seems to be in this category. A new concept of the genesis of this disease will be necessary in the future as the result of the effect of specific treatment upon the course of the malady.

RADIOLOGICAL FRAUDS AND IMPROPER PRACTICES.

The roentgenologist, like the surgeon, has had to contend most strenuously against iniquitous unethical forms of fee-splitting. Masquerading under various disguises, this evil is apparently becoming quite prevalent in the world of the radiologists. The difficulty of combating this deceitful practice lies in the clever camouflage that roentgenologic laboratories are able to employ, especially those not under the immediate control of a physician. The Radiological Society of North America, at its recent meeting in New Orleans, called attention most forcibly to these practices, which it branded improper, unethical and dishonest. In a series of resolutions, the organization opposed vigorously such practices, and stated that any radiologist engaged in improper and unethical practice should be disbarred from membership in the organization. Of particular moment and force was the seventh resolution, which labeled and catalogued a roentgen-ray laboratory as unethical if diagnostic reports, based upon film-readings of technicians without a medical degree, emanate from such a laboratory.

HOSPITAL STAFF TRANSACTIONS

CHARITY HOSPITAL MEETING. MEDICAL SECTION.

The regular monthly meeting of the medical section of the Charity Hospital Staff was held June 19, 1928, at 8 P. M., Dr. Bethea presiding.

Dr. Otis first presented a young female patient upon which the diagnosis of functional vomiting, cystitis, and herpes labialis had been made. The outstanding features of the case were the recurrent attacks of vomiting, and a certain peculiar swelling of the legs associated with a stomatitis. These complaints had resisted many forms of therapy. One urine analysis showed the presence of 4½ per cent albumin and many pus cells.

Dr. Lyons discussed this case with reference to the marked albuminuria which he thought to be too pronounced to be accounted for by the pyuria. He suggested the possibility of the case being an angioneurotic edema associated with a nephrosis. Dr. Bethea discussed the case with regard to food albergy, mentioning milk especially.

The second case shown by Dr. Otis was an obese young female who had been unable to walk upon her admission to the hospital. Her neurological examination had been entirely negative. She is now having no difficulty in walking, the diagnosis of pyschoneurosis being made.

Two very interesting cases were shown by Dr. Giles. The first, a white female 58 years of age, was a case of tumor of the posterior lobe of the pituitary gland. The diagnosis was borne out clearly by the lateral views of the skull demonstrated by Dr. Granger. The woman showed the enlarged massive facial features and the very typical "spade" hands. The therapy of the case had consisted of roentgen-ray applications to the gland with an apparent partial relief of her severe headaches, a lowering of the basal metabolism from + 42 to + 11, and an alleged improvement in her facial characteristics. Questions asked elicited the facts that her blood pressure was normal and there were no visual disturbances.

The second case shown by Dr. Giles was a male diabetic being treated with synthalin. The progress of the case was summarized, and it was shown that the diabetes was apparently under control on a full diet without insulin, but with synthalin. This patient had had hypoglycemic reactions following the use of too large doses of the drug through an error. The tendency of the drug to produce a hepatitis was discussed, the case under discussion having a weak diazo reaction indicating some hepatic impairment.

Drs. Lyons and Bethea discussed the case briefly. This was the closing meeting until October.

WILLARD R. WIRTH, M. D.

THE SONIAT MERCY HOSPITAL.

Drs. Mullens, Waters and Rigall were appointed Junior Internes for the year beginning July, 1928.

Dr. Hauser presented several cold specimens with their history and pathology:

(1) A case of hemolytic staphylococcus aureus. Admission diagnosis was mastoiditis. Operated. Blood culture showed the hemolytic staphylococcus. The non-hemolytic is common and recovery is the rule. There is a one hundred per cent mortality with the hemolytic however.

(2) A case of septic thrombo-phlebitis extending as far as the inferior vena cava with no edema of the extremities.

(3) Several specimens of pathological appendicies. (a) Carcinoma of the appendix. (b) Multiple bird shot in the appendix lumen, and (c) Carcinoma of the tissues immediately adjacent to the ilio-cecal valve.

MAURICE CAMPAGNA, M. D., Sec'y.

TRANSACTIONS OF ORLEANS PARISH MEDICAL SOCIETY

During the past month the Society has held its regular Board Meeting, one Joint Clinical Meeting with the Charity Hospital Staff and one Scientific Meeting.

At the Clinical Meeting cases were presented by the following: Drs. P. A. McIlhenny, E. D. Fenner, Urban Maes, Jerome E. Landry, J. H. Smith, Jr., Alton Ochsner, and A. Henriques.

At the Scientific Meeting held June 25th, the following papers were read and discussed:

Appendicitis in Children.

By.....Dr. Chas. J. Bloom.

Discussed by Drs. Urban Maes, E. Denegre Martin, and John F. Dicks.

The Use of Lipiodol as an aid to diagnosis in Sinus Conditions. Preliminary Report.

By.....Dr. A. I. Weil and Dr. W. F. Henderson.

Discussed by Dr. H. L. Kearney and Dr. L. J. Menville.

During the past month the Society extended an invitation to the American Psychiatric Association, the American Association for the Study of Epilepsy, and the National Association for the Study of Feeblemindedness, to hold their 1929 convention in New Orleans. This invitation was to be extended through Dr. J. N. Thomas, Superintendent of the Central Louisiana State Hospital.

Dr. H. C. Dilworth was elected to Interne Membership and Dr. Frank J. Beyt and Dr. J. Kelly Stone were elected to Active Membership.

The Library of the Society has received a complete line of publications in the form of reprints and pamphlets of the National Committee for Mental Hygiene. Many of these pamphlets are for the laity, but to medical men they will prove of interest in detailing many features of mental hygiene in childhood particularly, which advice is often sought from him by parents.

TREASURER'S REPORT.

Actual Book Balance, 4-30-28	$1,121.15
Receipts during May	1,381.58
	$2,502.73
Expenditures	$1,010.11
	$1,492.62
Outstanding checks	129.99
Bank balance	$1,622.61

LIBRARIAN'S REPORT.

Thirty-two books have been added to the Library during April. Of these 6 were received by gift, 10 by exchange, 4 by binding and 18 from the New Orleans Medical and Surgical Journal. Note is made of new titles of recent date in the list herewith appended.

Three reference lists have been prepared and added to the files on subjects as follows:

Articles by Calve 1900-20.

Euphyllin.

Sedimentation test.

The cataloging of our pamphlet collection has continued as fast as the daily reference calls would permit 110 being added to our files during May.

The new shelving has been received and constructed, and the subsequent shift into this extra space is in progress.

NEW BOOKS.

Frankel—State aided hospitals in Pennsylvania. 1925.

Emerson—Physical diagnosis. 1928.

Thomas—Asthma. 1928.

Grover—High frequency practice. 1928.

Miller—Safeguarded thyroidectomy. 1928.

Shastid — Outline history of opthalmology. 1927.

Woldenberg—Prevention of preventable orthopedic defects. 1927.

de Takats—Local anesthesia. 1928.

Amer. Assn. of Med. Certified Milk Conferences. 1927. Milk Commissions.

Balker—Young man and medicine. 1928.

Lynch—Communicable and other diseases in the World War. 1928.

Amer. Surg. Assn.—Transactions. 1927.

May—Diseases of the eye. 1927.

Nord—Etude sur l'influence de quelques derives de l'albumine sur la regulation du sucre du sang. 1926.

Young—Treatment of infections and infectious diseases with mercurochrome-220 soluble. 1925.

Stanford University—Bulletin vol. 8. 1924-27.

Rose—Physical diagnosis. 1927.

DeLee—Principles and practice of obstetrics. 1928.

Hare—Use of symptoms in diagnosis. 1928.

Crossen—Gynecology for nurses. 1927.

Chopra—Anthelmintics and their use. 1928.

Schellberg—Mechanics and chemistry of the human body. 1928.

Sante—Lobar pneumonia. 1928.

Dakin—Elements of general zoology. 1927.

Jahreskürse für ärzthiche Fortbildung, v. 1, 6-14. 1910, 1915-23.

H. THEODORE SIMON, M. D.,
Secretary.

CELEBRATION OF THE GOLDEN ANNIVERSARY OF THE ORLEANS PARISH MEDICAL SOCIETY.

Monday, May 7, 1928.

Hutchinson Memorial.

Dr. J. B. Guthrie: Ladies and gentlmen, it is a great pleasure to welcome you here in the name of the Orleans Parish Medical Society on our Golden Anniversary. We have lived a long time. It seems a long time to some of us—but it is a wonderful privilege to have been with the Orleans Parish Society for even one-half of these years that we are commemorating. However, it is not my function to recount the history of the Orleans Parish Medical Society. That will be done by far more capable men than I. We are here simply to commemorate this event and to co-ordinate our work with the public, and to bring up to ourselves and to you the events in which the Society has had a part throughout the years since its organization.

We have a few announcements to make. It was my pleasure to be present at a meeting of the State Medical Society's Executive Committee this morning, at which time it was decided to ask the State Medical Society of Mississippi to meet with the Louisiana State Medical Society next spring. The State Society of Mississippi will be invited to share the 50th Jubilee of the Louisiana State Medical Society next year, and we hope the Mississippi Society will be able to accept the invitation.

We will now have the pleasure of hearing some music.

(a) Musetta—Valse.....La Boheme
(b) Fairy Roses.....Colridge Taylor

Miss May Mares

Dr. Guthrie: I have a telegram from Dr. Oscar Dowling to read:

Dr. J. Burnie Guthrie,
President Orleans Parish Medical Society, New Orleans, La.,
1208 Maison Blanche.

History and tradition present no greater lights than Chaillé, Miles, Bickham, LePlace, DeRoaldes, Kohnke, Formento, Dyer, Feingold, Souchon, Matas, Lewis, Bruns, born teachers and benefactors of mankind. All honor to the Orleans Parish Medical Society for contributions to preventive and curative medicine and surgery. May each passing year find you stronger and better. Regret being absent.

OSCAR DOWLING.

The subject of our next address will be "The Evolution of Medical Teaching in New Orleans." The one who is speaking on this subject needs no introduction to anyone living in this city. He has taught nearly all of us. He has taught some men I have known who have lived long and useful lives and have passed away—Dr. Ernest S. Lewis.

Dr. Lewis: Members of the Orleans Parish Medical Society, Ladies and Gentlemen, I am very glad to find my name is the first on the program, which will enable me better to enjoy the rest of the proceedings. When I was asked to deliver an address on this anniversary, I experienced some difficulty in selecting a subject which would not be boresome to an audience so largely composed of the fair sex, and which would be in keeping with the address of Dr. Fossier, who is to talk on the beginnings of the Orleans Parish Medical Society, and its gradual development to the present time. I thought it might prove equally as interesting to you were I to give you a brief, cursory outline of conditions that existed at the time I began my medical studies, the changes that have taken place and some of the causes that have contributed to bringing them about, also, their effect on the exercise of the profession.

The subject is a very broad one, and, as I have stated, this address that I have prepared is a superficial outline, otherwise it would have been boresome to the present audience.

(Reads paper, which is published in fore part of Journal.)

Musical selection.

(a) Tone Picture.....Ferrata
(b) Prelude C minor.....Rachmaninof

Miss Marie Elise Dupuy

Dr. Guthrie: The Society is very fortunate in having as a member a man of well-nigh universal talent. A very few weeks ago the Board of Directors selected this gentlemen to arrange the celebration of our birthday. Everything was left to him to see that the audience would be on tiptoe to come to listen to this celebration. He has had to delve into the archives of the Society and to present a history of the Orleans Parish Medical Society, which had to be both complete and condensed. I have the pleasure to introduce Dr. Albert E. Fossier.

(Presents paper, published in fore part of Journal.)

Musical selection.

(a) Ave Maria.....Schubert
(b) Spanish Dance.....Sarasate

Adrien Freiche

Dr. Guthrie: About December, on the occasion of a banquet to which we had invited Dr. Matas upon his return from Europe and his election to the Royal College of Surgeons, Dr. Matas reminded us of the coming of this day and it was he who gave the inspiration that prompted us to come to-

gether tonight. Dr. Matas is in Washington, although his name is on the program and we expected to hear from him. Following is a telegram from Dr. Matas:

Dr. A. E. Fossier, Chairman,
8119 Green St., New Orleans, La.

Deeply regret that I am unavoidably detained here too late to participate in the glorious semi-centennary of our beloved Society. Though I cannot be with you in person I am with you in thought at this moment, and at this distance I am joining in the general rejoicing and echoing the cheers that will greet your recital of the Society's fifty years of arduous labor and unsurpassed achievement that have shaped the destinies of the O. P. M. S. along the paths of immortality assured by the well earned success of the past and the certainty of the present we behold a future crowned with glory of another semi-centennial of still greater accomplishment in the service of our profession of our people and of the commonwealth. With affectionate greetings to our assembled fellows and friends, I am yours most faithfully, in devotion to our dear O. P. M. S.

R. MATAS.

Never is there a duty to perform in this Society of ours that some willing hand doesn't take that duty upon himself. Dr. Matas' announcement of his delayed returned came a very short while ago and we called on one of our members who has been with us a long time and who is familiar with the activities of the Society, a man who has devoted himself to the keeping of records. This seems a hard and thankless task to most of us. We feel it requires constant devotion and zeal to keep them straight. This gentleman has been associated with the quarantine system established by Dr. Joseph Holt, mentioned by Dr. Fossier, which was copied the world over. Dr. Holt's work made it possible for a system to be instituted at the mouth of the river which enabled boats to pass up the river short of the 40-day period, which was up to that time exacted. Dr. G. Farrar Patton has kindly consented to come here tonight.

(Delivers address, published in fore part of Journal.)

Musical selection.

(a) Les Deux Serenades.....Leoncavello
(b) Carmé .....Danza
(c) Flirtation .....Meyer-Helmund

Paul Jacobs

Dr. Guthrie: One of the most noteworthy questions that is raised for organized medicine to solve is the relation of the doctor to public life, and our Committee has chosen the Hon. T. Semmes Walmsley, a member of our Commission Council, to speak on this subject. There are two names prominent in the history of the State of Louisiana and the City of New Orleans in the last fifty years and those two names are Semmes and Walmsley.

(Delivers address, published in fore part of Journal.)

Dr. Guthrie: I wish to express the thanks of the Society to Mr. Walmsley who came here and took so much trouble in preparing this address and to assure him that we will take steps to enforce these medical requirements.

Musical selection.

Violin obligato.....Adrien Freiche

Accompanists:

Mrs. Mayer Prince Dr. Homer Dupuy

Refreshments

Citation of Dr. Matas.—The following citation when the degree of Doctor of Science was awarded Dr. Rudolph Matas at the 181st annual commencement of Princeton University so well expresses the appreciation of others outside of New Orleans and Louisiana that it deserves to be preserved in the annals of the Orleans Parish Medical Society.

Doctor of Science.—Rudolph Matas, a graduate in medicine of Tulane University, for forty-three years connected with that university as a teacher of anatomy or Professor of Surgery, now emeritus. He is particularly distinguished for his researches in the surgical treatment of aneurism. As a surgeon his knowledge, his skill, his courage and his good judgment have won for him one of the highest places in his profession. In the great army of devoted men who go out to attack the many bodily ills that afflict mankind he is one of the leaders, followed cheerfully and with affection by those who know the eminent qualities of his mind and heart.

LOUISIANA STATE MEDICAL SOCIETY NEWS

H. Theodore Simon, M. D., Associate Editor.

The Journal learns with a great deal of pleasure of the appointment of one of the members of the Journal Committee, Dr. Hiram W. Kostmayer, as Professor of Gynecology and head of this department in the Graduate School of Medicine of Tulane University.

The Journal feels that this is a well deserved honor for a man who has labored long and faithfully in the interests of organized medicine. It senses also that the Graduate School made a wise selection of one who by his skill as a surgeon and scientific accomplishments has made himself one of the outstanding gynecologists of the South.

Louisiana State Medical Society was represented at the recent meeting of the American Medical Association at Minneapolis the week of June 11 by Drs. Elizabeth Bass, O. W. Bethea, Ansel M. Caine, Geo. B. Collier, J. A. Danna, L. R. DeBuys, R. C. Lynch, J. H. Musser, J. T. O'Ferrall, E. A. Socola, and Ludo von Meysenbug, of New Orleans; Dr. R. Butler of Springhill; Drs. Guy A. Caldwell, D. A. Huckabay, C. L. LaRue, and J. P. Sanders of Shreveport; Dr. O. E. Denney of Carville, and Dr. Newton L. Sebastian of Ferriday.

Louisiana physicians returned with two honors from this meeting; Dr. Ansel M. Caine achieved a well deserved recognition by being elected President of the Associated Anesthetists of the United States and Canada, and Dr. O. E. Denney was awarded the bronze medal in the Scientific Exhibit for his magnificent exhibit of colored plates of the lesions of leprosy.

TRANSACTIONS OF THE MEETING OF THE SEVENTH DISTRICT MEDICAL SOCIETY, HELD IN JENNINGS.

The Seventh District Medical Society held its Spring Meeting in the American Legion Hut, in Jennings on Thursday, June 14, 1928, at 7:30 P. M. Considering the inclemency of the weather the attendance of 37 members was commendable.

The committee in charge of the banquet and entertainment offered a very delightful musical program and splendid feast. In conjunction with the intensely interesting presentations this proved to make the meeting well worthy of praise.

The motions for the next meeting place were entertained, and Opelousas was granted the privilege of election.

The scientific program consisted of extremely interesting and important subjects, admirably presented by the following very competent men:

Dr. E. D. Fenner, New Orleans, Treatment of Common Fractures; Dr. Chaille Jamison, New Orleans, The Pleura: Remarks and Observations; Dr. C. S. Holbrook, New Orleans, Migraine: Symptoms and Treatment.

The excellent slide demonstrations accompanying the addresses of Drs. Fenner and Jamison served the additional purpose of increasing the interest and value of these presentations.

The presentation of a case of Splenomyelogenous Leukemia by Dr. Crawford of Lake Charles was very enlightening and interesting.

The motion was made that Drs. Fenner, Jamison and Holbrook be made honorary members of the Society, which was unanimously carried.

Our President-elect, Dr. Frank T. Gouaux, was a patient at the Hotel Dieu for several days in June. It was necessary for the doctor to have a slight surgical operation performed, which he stood well and convalescence was uncomplicated.

At the last meeting of the Board of Administrators of the Tulane University of Louisiana, the name of Dr. Henry Daspit was approved for appointment as Dean of the Graduate School of Medicine, effective September 1, 1928.

Dr. Daspit has been connected with the College of Medicine for a number of years; has been a member of the Executive Faculty of the Graduate School of Medicine since its reorganization three years ago, and, as one of the youngest and most active members, he was recommended for this position. He is in every way qualified for the honor conferred, and under his administration continued prosperity for the school is assured.

Dr. Daspit succeeds Dr. E. Denegre Martin, who was chosen Dean at the time of the school's reorganization in 1925. In relinquishing the deanship Dr. Martin is carrying out a policy which he believes for the interest of the institution, and that is the infusion of young blood into the administration of its affairs.

RAPIDES PARISH MEDICAL SOCIETY.

At a recent meeting of this society there was introduced and passed a resolution that the President appoint a committee to present to the society suitable expression of the society's appreciation of the public record of two of its members, viz: Dr. Jno. M. Thomas, Superintendent of the Central Louisiana Hospital for the Insane, and Dr. G. M. G. Stafford, Superintendent of the State Colony and Training School.

Dr. Thomas has been at the head of the Central Louisiana Hospital for the Insane since 1909. The institution has grown from a rather crude beginning, when it housed just four hundred inmates and performed the simple function of detention and care with the mere necessities of life, with no attempt at medical relief, to a modern hospital for those mentally sick, giving scientific care to nearly thirteen hundred insane.

When Dr. Thomas assumed charge of this institution there was no effort to study and classify the cases so that appropriate measures might be taken; there were no staff meetings, and it might be said that there was not a staff, and laboratory facilities were unknown. Today, there stands a modern institution for the care of the insane, erected by the money of the State, it is true, and its management properly supervised by citizens appointed for that purpose, but the whole development of the hospital, its policies, its spirit of care and kindness, have all been inspired by the man who has served as its superintendent for nearly twenty years. During that time, his public records stamps him a kindly man, an efficient man, and, above all, a conscientious public official.

Upon the death of our late member, Dr. Watt Evans, Superintendent of the State Colony and Training School, Dr. G. M. G. Stafford, long a member of this society, was appointed to the place. This institution is but a few years old, the State's care of the feeble minded is a new work in Louisiana, and the work which Dr. Evans started has been carried on ably under its present management; there are few medical men in this or any other State who have been given the problem of the feeble minded serious study, and the State is fortunate now to have the medical men in charge of the work, who are now there. In the short time he has been there, Dr. Stafford has shown a keen interest and kindly sympathy in his work and no man could have made a better record with the limited facilities and funds furnished for the purpose.

Your committee believes the above poorly but truthfully expresses the opinion of the members of this society.

M. CAPPELL,
K. RAND,
Committee.

THE SIXTH DISTRICT MEDICAL SOCIETY.

To the Medical Profession of the Sixth Congressionel District—Greetings:

It may not be amiss to state that the Tenth Spring Meeting of this society, which was to have taken place last April in Baton Rouge, was, for obvious reasons, pretermitted to June in deference to the meeting of the State Medical Society.

This meeting's scientific program will consist of a symposium on Asthma and Hay Fever, led by Doctors F. W. Scheppegrell and N. F. Thiberge of New Orleans, with stereopticon views, followed by a number of other papers, incidental hereto. I would be pleased to receive the name as well as the title of the paper that any of you may care to read (relative to the aforementioned subject matter, of course,) as soon as possible, so that it may be printed in the official program.

At 1 P. M. one of those delicious luncheons for which our hosts are famous.

Firmly believing that a "Woman's Auxiliary" to this society would be of immeasurable assistance, vast benefit, boundless good and unusual interest, it is my purpose and I very much desire to distinguish my term of office as also to blaze the way for other medical societies in the State by organizing and launching such an auxiliary at THIS meeting, and with that end in view may I urge you to bring along the ladies of your immediate family with the suggestion that this feature take place immediately following the luncheon.

This being the Annual Meeting and Election of Officers, may I beseech a full attendance, thus enabling us to live up to our reputation and uphold our rank in the medical world.

If YOU are a member of your Parish Society or in GOOD standing with the State Medical Society, COME even though you have never met with us—COME, we WANT you, we need YOU, and believe me, you will enjoy the meeting and yourself.

Now, Doctor, please memorize the following:

Occasion—Tenth Spring Meeting of the Sixth District Medical Society.

Place—City of Baton Rouge, La.

Location—Our Lady of the Lake Sanitarium.

Day and Date—Wednesday, June 27th, 1928.

Time—9:30 A. M. SHARP.

With expressions of regard and gratitude for the honors conferred on me by the society,

Respectfully,
A. G. MAYLIE, M. D.,
President.

NEW ORLEANS OPHTHALMOLOGICAL AND OTOLARYNGOLOGICAL SOCIETY.

The scientific meeting of the New Orleans Ophthalmological and Otolaryngological Society was held at the Eye, Ear, Nose and Throat Hospital on Thursday, May 17, 1928. Dr. Buffington was appointed Chairman of the meeting.

Dr. Joachim presented the following two cases:

Case No. 1. A man with carcinoma of the larynx on whom he did a laryngotomy May, 1920, followed by radium therapy in which there ap-

peared to be no recurrence, although the patient visited him two days ago with a complaint of a cold in the throat associated with hoarseness of three days' duration. One brother died of carcinoma of the larynx, sister died of carcinoma of pelvis, another brother sick with carcinoma of the stomach. On inspection of the larynx a whitish gray band is seen crossing the anterior commissure of the larynx with slight pedema of the arytenoids and partial fixation. A scar in the midline of the neck is seen on inspection, the result of the external laryngotomy.

Case No. 2. A man, aged 46 years, who five years ago appeared for treatment for a carcinoma of the base of tongue size of thumb after being reported by a surgeon as being inoperable. Applications of radium needles and roentgen therapy was given for several months with only softening of the tumor. He was sent to the physician who was treating him in Meridian, Miss., who continued the roentgen-ray and radium therapy, and today he is preaching to his congregation and feeling well.

Dr. Allen showed a patient with tuberculosis of the uveal tract which simulated interstitial keratitis, which had been under treatment and observation twelve months, in whom the vision improved from 20:200V to 20:50V and the opacities of the cornea disappeared, and the two exudative masses of the vitreous shrunk considerably. The Wasserman was negative. Patient become worse in the beginning under anti-luetic treatment. In the discussion the tuberculin test and tuberculin therapy were suggested.

Dr. Brown presented two patients with acute glaucoma improved by means of a new operation in which he describes the technique as follows: The conjunctiva is first anesthesized either with holocain or cocain. The bulbar conjunctiva is grasped with a fixation forcep at a point 6mm. from the corneo-scleral limbus either in the inner or outer canthus. A hypodermic needle is inserted with its point directed toward the limbus and a solution of novocaine, 2 per cent, and adrenaline chloride, 3 minims, to the syringe full are injected so as to create a bleb. A Ziegler knife needle with its blade held upon the flat is inserted within the center of the bleb and carried sub-conjunctively to a point 1mm. anterior to the limbus the sclera is perforated and the anterior chamber is entered. The knife is now turned so that its cutting edge is in contact with the iris fibres. The iris is divided at its root. The knife is then turned upon the flat surface and removed. The advantages are: to furnish immediate relief from pain, to diminish the intra-ocular tension, to prevent permanent blindness from increased tension, to keep the patient quiet until a more permanent treatment can be prescribed.

Dr. Hume presented a case of herpes zoster oticus from involvement of the geniculate ganglion because of its rarity. The child, aged 6 years, complained of severe pain over the right mastoid for five days, followed by a sudden paralysis of the facial nerve, with no changes of taste or involvement of the nerves of salivation. The herpetic lesions involved the auditory canal cavum chonchea with post-auricular glandular enlargement. It was of interest to note the absence of involvement of the chorda tympani nerve and the sympathetic fibres to the salivary glands, and in the discussion a thorough anatomical discription of the geniculate ganglion and the fibre entering into its formation was given so as to explain this phenomenon.

Dr. Perdue presented a case of optic atrophy in a man with general paresis, a negative Argyl-Robertson pupil, almost complete contraction of peripheral fields for all colors, a visual acuity of 20:15 V., and unable to see large objects such as large buildings. This strange visual defect was accounted for by a few of the central fibres of the optic nerve in the maculo-papular bundle not being affected and with a small area of central vision the size of a dime remaining. In the discussion, the question of the etiology of the optic was brought out, but the cause was not decided as to whether the atrophy was due to the lues or the arsenical therapy.

Dr. Allgeyer presented a case of persistent recurrent iritis of nine years' duration with infection of the prostate previously treated by several ophthalmologists. Teeth, tonsils, sinuses, and other foci of infection were negative. No tuberculine test was made. Patient recovered after three doses of diphtheria antitoxin. There was some discussion as to the possibility of the case being tuberculous, although it was self-evident that after the injections of the foreign protein in which the reticulo-endothelial system was brought into play. It resulted in the marked improvement, which further confirmed the prostate as the focus of infection producing the iritis.

WILLIAM A. WAGNER,
Secretary-Treasurer.

NEW SOCIETY.

At a comparatively recent meeting, the New Orleans Gastro-Enterological Society was organized. The following officers were elected: Dr. Sidney K. Simon, president; Dr. J. A. Storck, vice-president; Dr. A. L. Levin, secretary-treasurer. The object of this society shall be the promotion of the study of normal and pathological conditions of the digestive tract, and its allied organs, as, likewise, nutrition and metabolism.

INTERSTATE POST-GRADUATE ASSOCIATION WILL MEET IN ATLANTA.

For the first time in the South there will be held a medical association whose proceedure is unique and of remarkable interest.

The Interstate Post-Graduate Medical Association of North America will meet in Atlanta, Ga., October 12th to 19th, inclusive. This association in 1926 met in Cleveland, Ohio, where nearly 5,000 practicing physicians were registered. At the Kansas City meeting last October 5,200 were registered.

Those who come to this remarkable sort of medical meeting will really be given a post-graduate course by the leading medical men of this country and abroad. The daily meetings are held from 7 A. M. to 1 P. M., from 2 to 5 P. M. and from 8 to 10 P. M. Every one who has attended these meetings has been amazed by the magnitude of the work done, by its quality, by the number of distinguished guest and by the remarkable interest aroused.

MEDICAL WRITING.

In this connection may I remind you that, whatever work we may do, either clinical or investigative, it will do little general good and will lose much or almost all of its effect unless the noteworthy part of it is promptly and well reported in the medical press, which itself indeed cannot grow and prosper unless the profession gives it the material by which it can live and grow. We Southerners have always been too loath to go into print and have hence woefully sinned in not putting on record the glorious history of our ancestors and our section and have let others too often run off with our laurels. And we seem to be just as backward in reporting our medical work. Certainly until we develop the habit, as our Northern brothers so wisely have, of thus giving to the public and the future the results of our studies, they will remain almost useless to our profession, and the world will not know what we are capable of or realize the good work that is being done South of the Mason and Dixon line.

Let then every one of us, resolve not indeed to get that sad disease, the furor scribendi, which tempts a man to vomit forth incessantly over a suffering public the undigested results of careless observations and poor thinking just for the sake of being in print, but to force ourselves to observe and record so accurately the results of our work that we shall have material of real value which we shall be careful to report fully in the journals, and which shall be not only a credit to us, but an asset to our section and which will enable the medical world to see what the sons of the South are doing for the advancement of our science. In the last anaylsis, it depends upon the interest and energy of Southern physicians to put over these things which I have suggested, and I leave the matter in your hands, feeling sure that such a cause cannot fail to elicit your enthusiastic interest and your untiring and persistent support.—Minor, C. L.: South. M. J., 18:1, 1925.

MISSISSIPPI STATE MEDICAL ASSOCIATION NEWS

J. S. Ullman, M. D., Associate Editor.

The regular quarterly meeting of the Northeast Mississippi Thirteen Counties Medical Society was held at Houston, Miss., June 19, 1928, when the following program was presented:

1. Angina Pectoris, an Echo, Dr. G. S. Bryan, Amory.

2. A paper, Dr. S. H. Hairston, Meridian.

3. Urinary Obstructions, Dr. L. B. Morris, Macon.

4. Early Diagnosis of Pulmonary Tuberculosis, Dr. W. A. Toomer, Tupelo.

5. Roentgen-ray and Radium Therapy, Dr. J. R. Williams, Houston.

THE EX-PRESIDENTS CLUB.

One of the most important incidents of the State Association convention is the meeting of the Ex-Presidents. There are now twenty-five living Ex-Presidents, of whom fifteen attended the Meridian meeting. One, Dr. S. W. Johnston, was called away on business. The following attended the club dinner: P. W. Rowland, W. W. Crawford, D. W. Jones, D. J. Williams, J. S. Ullman, I. W. Cooper, T. M. Dye, F. J. Underwood, J. W. Barksdale, Henry Boswell, W. A. Dearman, G. S. Bryan, T. E. Ross, John Darrington. The names are given in order of "age" of service.

Dr. Cooper was the host of the Club, and served an excellent dinner at the Wiedman. The Club was called to order by the Secretary, Dr. Jones, who read the list of Ex-Presidents. Dr. Rowland, being the "oldest" member in point of service, was asked to preside. He had the Club to stand a moment in silent reverence to the memory of our deceased brother, Dr. J. M. Buchanan, who died since the last meeting of the Club. Dr. Cooper then gave a short sketch of the official life of Dr. Buchanan, and paid a beautiful tribute to his long life of service in the Association.

The Secretary read a letter from Dr. J. W. Young, the oldest living Ex-President, expressing his regrets over his inability to attend the meeting. The veteran doctor has recently suffered a stroke of paralysis, and is confined to his bed. The Club instructed the Secretary to send a telegram of love and sympathy to Dr. Young. (Later a similar telegram was sent by the Association.)

By request, Dr. Rowland gave a short sketch of his connection with the Association. He joined the Association at Meridian forty-five years ago, and has missed only two meetings since. He also joined the Southern Medical Association when it was organized and has missed but few of their meetings. He is also a member of the A. M. A. for many years, and has attended several of their meetings.

At this point, the secretary called attention to the fact, by contrast with this wonderful record of loyalty, that several of the Ex-Presidents had attended but few meetings since their terms as Presidents expired. Dr. Barksdale took occasion to give a severe castigation to those officials who seemed to appreciate this honor so lightly, and made a beautiful talk on the value of the influence which the Ex-Presidents of this Association might exert on the younger members, and thus exalt and honor the office of President.

Dr. Crawford, as the next oldest in point of service, was then called upon and gave many reminiscences of some of the men who were the leaders when he served as President. Dr. Darrington, the youngest member, was then called upon and expressed his appreciation of the honor of being a member of this Club, and declared he would do everything in his power to uphold the dignity of the high office in which he had just served.

Dr. Rowland, who has attended over forty meetings of this Association, here issued a challenge to the members of this Club to meet him each year for the next ten years, which challenge was accepted with enthusiasm, and the club adjourned.

D. W. JONES,
Secretary.

The regular monthly meeting of the Isaquena-Sharkey-Warren Counties Medical Society was held June 12th in Vicksburg. The program consisted of the following:

1. Certain Lesions of the Cervix Uteri and Their Treatment, Dr. W. H. Parsons.

2. Sinus Disease in its Relation to General Surgery, Dr. G. M. Street.

This society has an unusually efficient secretary. His notices are always worth while. Recently he has adopted the plan of carrying some very pithy extracts on the back of his letters and circulars. Here are two from his last letter. Perhaps some of the other secretaries might want to adopt this plan or something like it.

Dr. E. H. Jones—"Ethical Advertising. The Code of Ethics states most forcibly that no physician shall cause to be published, or even inspire,

an article laudatory to himself. All of us will readily and heartily agree to this, but would not a form of advertising that would react to the benefit of the whole profession be entirely ethical? Many years ago the banks were extremely dignified in their advertising. At the same time large and impressive advertisements of "get-rich-quick" companies fleeced the public out of millions of dollars. The banks have since changed their policy * * * by educating the public, have performed valuable service, teaching them how to take care of their money. * * * Might we not be furnishing our ideal of service to mankind if, through ethical advertising, we attempted to better educate the public how to conserve health and to avoid charletans, quacks, and patent medicines?"

PUBLIC HEALTH DEPARTMENT ATTENTION!

Colored Customer: "Ah, want a quote of sanctified milk."

Storekeeper: "What you-all mean is pacified milk."

Customer: "Look heah, small one, when Ah needs inflammation, Ah'll specify."—Gateway to Health.

The State Board of Health in its weekly health suggestions has lately been devoting its attention to the fight against cancer. We should like to invite your attention to two of these that are particularly good.

"THE FAMILY DOCTOR IN CANCER."

"The family doctor is the key man in the control of cancer.

"It is to him that a person should go for diagnosis and treament.

"If the family physician is not certain of the diagnosis, he should not wait, but refer the patient to some other physician or to a hospital or clinic where special facilities exist for the examinations which are required.

"It is no reflection upon the family physician when he cannot himself make a diagnosis in cancer, for the disease takes so many forms and affects people in so many ways that it is sometimes impossible, even with the best equipment, skill, and experience, to be certain of the trouble. There is an old saying and a true one to the effect that the more simple the diagnosis the more fatal the case. The reason for this lies in the fact that advanced cases of cancer present symptoms which are unmistakable, whereas newly formed cancers in certain locations may present few or no symptoms.

"The family doctor in cancer should be the patient's guide, philosopher, and friend. He is familiar with all the resources in his region of the country which can be turned to the advantage of his patients. He should be suspicious of cancer upon the slightest evidence, and he should be firm in the instruction he gives as to treatment. Being a practitioner of medicine and not a surgeon, he may not be able to perform the operation, if one is required, but he should know the qualifications of those who can do so with the greatest skill. He should be aware of the pitfalls which lie in the field of quackery, and be able to guide his patients away from them."

"DELAYS ARE FATAL IN CANCER."

"It has been well said that every cancer is at first a miniature tumor and at that time but little more difficult to cure than a splinter or the sting of an insect.

"If a little cancer was as painful as a sting, many people would go promptly to a physician, and so be made well. But at first there is no pain or inconvenience. The symptoms develop gradually. Suspicion is not aroused that there is anything much the matter.

"On the theory that the trouble is trifling and will disappear if left alone, the patient delays calling in medical help. It is surprising to find how many persons have long been aware that something was wrong with them before they have gone to a physician about it. But every day counts. When at last something has to be done, it is often too late.

"It is desirable to treat all diseases in their early stages, but in no affection is it more necessary than in cancer. The danger is like that of a fire. At first there is but a spark which can readily be extinguished. As the flames spread, the fire becomes more and more unmanageable. At last a conflagration develops and extinction is no longer within human power.

"What should be done when a person thinks he or she has a cancer is well illustrated by the case of an old lady who is now reaching a ripe old age in New England. Many years ago her suspicion became aroused that she had cancer. Within an hour she was at the hospital demanding an examination. The next day she was operated upon for cancer of the breast. She has been well satisfied with the results and has explained to hundreds of women that cancer can be cured if taken in time."

PREVENTION AND CURE OF TUBERCULOSIS

The Appendix to the Congressional Record of May 23, 1928, pages 9974-8 contains a paper carrying the above title. This was presented by

Senator Earle B. Mayfield of Texas with the request that it be printed in the Record. "There being no objection, the paper was ordered to be printed." It does not appear in this Record how the Senator is qualified to pass on the worth of such a paper.

It may be interesting to quote a few gems from this paper.

"DEFINITION

"TUBERCULOSIS IS A SLOW DECAY OF VITALITY.

"That is to say, a slow and continuous decay of the vital functions—respiration, circulation, nutrition, and assimilation—a disease in which the decay of the body exceeds the growth or repair.

"It is not hereditary or contagious; no child was ever born with tuberculosis, but the parents may hand down to their progeny the predisposition or tendency to contract the disease on exposure to certain conditions of environment.

"CAUSES

"There are four principal causes, all of which are capable of being removed; all are acquired, not inherited. And here it may be laid down as an axiom that if the cause of a disease can not be found and wholly or partially removed, no permanent cure can be made, the disease will prevail in spite of everything that can be done.

"FIRST CAUSE.

"Neglected or badly treated cases of pneumonia or bronchitis very frequently degenerate into tuberculosis, and the number of such cases is legion.

"SECOND CAUSE

"Vaccination or inoculation of the body with animal matter or poisons (ptomaines) which impair wholly or partially the function of the lymphatic glands whose function is to take up the waste and dead matter and eliminate it from the system.

"THIRD CAUSE.

"A deficiency of iron in the blood. Such persons are pale, anemic, weak, flat chest, soft muscles, insufficient lung expansion, easily fatigued, lack endurance, etc. Iron is absolutely necessary for our very existence. We receive it in our food, which can never be too rich in that metal. A person can never have too much iron in his blood; it maintains health and strength.

"FOURTH CAUSE.

"The use and abuse of alcohol in any form has been a prolific cause of tuberculosis, especially among the aboriginal inhabitants, the Indians. Alcohol has a strong affinity for water, it dries up the brain, and nerves, causes sclerosis of the liver, jaundice, dyspepsia, and all the disastrous results that flow from them, and very frequently terminates in tuberculosis.

"CHEMICAL ANALYSIS OF THE 'BACILLI'.

"Put a quantity of the dried sputum prepared, as already described, into a suitable glass vessel and pour on 5 or 6 ounces of boiled distilled water acidulated with nitric acid in order to insure the decomposition of any carbonates that may be present and carefully filter. The filtrate—the liquid which passes through—contains in solution all the sulphates, chlorides, phosphates, and nitrates of the five metals which enter in the composition of the human body—viz, potassium, calcium, sodium, magnesium, and iron—and the dark or black substance on the filter is tuberculin, the organic portion of the heteroplasm.

"To the filtrate add carefully drop by drop, stirring with a glass rod, a solution of barium nitrate; a white precipitate of barium sulphate will be thrown down characteristic of sulphur. Filter and set it aside for subsequent examination if deemed necessary. The filtrate is now free from all sulphates. The next step is the removal of the calcium which would interfere with the subsequent examination for magnesium; therefore add drop by drop, stirring always with a glass rod, a strong solution of oxalic acid, which will throw down a white precipitate of oxalate of calcium (lime), which filter off as before. The filtrate now contains the salts of four metals—potassium, sodium, magnesium, and iron.

"Now add a solution of silver nitrate; a pale yellow or dirty white precipitate of the chloride and phosphate of silver will be thrown down, and to this add strong nitric acid, which will dissolve the phosphate but not the chloride. Remove the precipitate by filtration as before, dry it and expose it to sunlight, when it will turn black, highly characteristic of chlorine. The filtrate now contains only phosphates and nitrates. Now add more nitrate of silver, when a yellow precipitate of the orthophosphate of silver characteristic of phosphorus will be thrown down, which remove by filtration as before.

"The sulphates, chlorides, and phosphates have now been decomposed and nitrates remain in their place; calcium has been removed and sulphur, chlorine, and phosphorus shown in the precipitates which can now be dried, weighed, and estimated in the usual way if a quantitative analysis is required.

"The filtrate—now a solution of nitrates—is now to be evaporated to a dryness and heated to redness or as long as nitrous fumes are given off, when there will remain the oxides of the four metals—potassium, sodium, magnesium, and iron. The first two are soluble in water, the other two are not. Dissolve in distilled water and separate by filtering. The filtrate now contains only potassium and sodium hydrates. Wash off the mixture of magnesium and iron hydrates on the filter

with sufficient nitric acid to dissolve them, which reduces them again to nitrates, divide the solution into two equal parts, to one add ferrocyanide of potassium. A white precipitate falls and rapidly becomes blue by the absorption of oxygen of the air, intensely characteristic of iron. To the other add chloride of ammonium, aqua ammonia, and phosphate of sodium; a white precipitate falls off the double phosphate of magnesium and ammonium having the composition of $MgN\ H_4\ PO_4$ —highly characteristic of magnesium. There is no direct test for this metal, but only by forming double salts as above.

"To the balance of the filtrate which now contains only potassium and sodium hydrates, add a few drops of hydrochloric acid, thus converting them into chlorides. Now add a drop or two of the perchloride of platinum, a yellow precipitate of the double chloride of platinum and potassium having the composition of $PtCl_4 2KCL$ will be produced characteristic of potassium.

"There now remains in the filtrate only chloride of sodium—common salt—for the sodium, of which there is no chemical test or reagent. A drop of the solution imparts an intensely yellow color to the flame of an alcoholic lamp, distinctly characteristic of his metal, and the spectroscope gives the distinctive yellow line which distinguishes this metal from all others.

"Here ends the chemical analysis of these minute crystals of the salts which enter into the composition of the human body—the first and the only one ever made or on record in any country in the world.

"These crystals of inorganic matter, erroneously believed to be animacula, that is, living microscopic germs, consuming and gnawing at the very vitals of the unfortunate victims, have caused an incalculable amount of trouble and distress to millions of our people, and as a result of which very many of them fill premature graves."

This paper was written by Dr. John Morrison of San Antonio, Texas. The following is a letter from the American Medical Association that will throw further light on the worthy:

"Dear Dr. Ullman:

"Doubtless the Dr. J. Morrison of San Antonio, referred to in your letter of June 4, is Joseph Morrison, who was born in 1848, graduated by the University of Toronto Faculty of Medicine in 1872 and licensed to practice in the District of Columbia in 1896. So far as we know, Morrison is not licensed to practice elsewhere in the United States, even in Texas, where he now resides. Morrison's name has not appeared in the American Medical Directory for many years, because, for a long time, he dropped out of sight.

"It would appear that Morrison is either one of these wrong-headed individuals who, on general principles, is opposed to the established order, whether it be science or religion, or who is in his dotage and riding a fad. About two years ago Morrison was boosting what is essentially an electric nostrum, namely: 'Echinacea'.

"Information in our files shows that Morrison is an anti-germ and anti-vaccination faddist. It seems that some time ago he published a book entitled 'Tuberculosis—Its Causes, Nature, Prevention and Cure,' with the subtitle, 'The Death Blow to the Germ Theory—A Chemical Analysis of the so-called "germs". The dangers of vaccination exposed.' In view of this, we were not surprised to learn some time ago that Morrison is vice-president to the 'American Liberty League.' This, as you probably know, is a preposterous organization made up of quacks, near-quacks and faddists, whose particular bugaboo is vaccination. We enclose an article on the 'league', which you may find of interest in this connection.

"Very sincerely yours,

AMERICAN MEDICAL ASSOCIATION.

President Frizell announces the following committee appointments:

STANDING COMMITTEES.

Public Policy and Legislative—D. W. Jones.

Medical Education—P. W. Rowland, T. E. Ross, Sr., G. E. Adkins.

To attend State Teachers' Association—Henry Boswell, John C. Culley, F. J. Underwood.

On Publication—J. S. Ullman, B. S. Guyton, T. M. Dye.

On Scientific Work—L. S. Lippincott, W. H. Anderson, T. M. Dye.

On Necrology—W. G. Gill, W. L. Little, M. W. Robertson.

On Hospitals—O. N. Arrington, E. F. Howard, S. H. Hairston.

CHAIRMEN OF SECTIONS.

Medicine—W. A. Dearman.

Surgery—W. W. Crawford.

Hygiene—C. C. Applewhite.

Eye, Ear, Nose & Throat—E. Leroy Wilkins.

TRI-COUNTY NEWS.

The Tri-County held its second quarterly meeting of the year and its first under its recently issued charter, which was granted since the society now embraces the counties of Walthall and Lawrence.

The society met in Hazlehurst with a very good attendance.

Dr. Chas. L. Eshleman of New Orleans, the guest of honor, presented a very interesting paper on Pernicious Anemia, giving case reports of two years, standing both from private and Touro records, showing the various blood pictures, with and without the liver diet. Lantern slides greatly increased the interest.

Dr. O. N. Arrington reported the meeting of the State Medical Association to the local members with comments on its program and good fellowship.

Dr. L. W. Brock of McComb presented a paper on Broncho-Pneumonia in Measles.

Dr. W. H. Frizell, the recently elected President of the State Association expressed his appreciation of his promotion to this high office and spoke of some of the policies of his administration.

The society adjourned to meet September 11, in Brookhaven.

Dr. W. W. Weathersby of Fair River, Lincoln County, Mississippi was found dead in his pecan grove near his residence on May 19, 1928. It is presumed that he succumbed to a heart attack as he had suffered from some form of cardiac trouble for many years.

He was born in Lawrence County, Mississippi, May 19, 1868. He was a son of the late Dr. William Weathersby. He practiced for a while in McComb and had served as surgeon to different saw-mills in his county, but for several years past he had retired from active practice.

Dr. J. H. Johnson is still in very poor health due to a weak right heart with hypertension.

STATESMEN AND MEDICINE

In the above section of the Journal will be found quotations from a most remarkable paper which appeared in a recent number of the Congressional Record. This gives rise to certain reflections as to the attitude of "statesmen" toward public health and medicine. Senator Mayfield is not the first to espouse the cause of some crank or charlatan in Congress. Most of us remember very well when Congress instructed the United States Public Health Service to undertake an unnecessary investigation of Freidman's so-called turtle serum.

The higher type of physician has long questioned the wisdom, the necessity, or the advisability of upsetting the management of our eleemosynary institutions every time a new governor comes into office. It is a sad commentary on our civilization that institutions for the lame, the halt, the blind, the insane, and the suffering should be considered as nothing more than a means of paying off minor political obligations. This state of affairs is not a new thing nor is it confined to any one political faction or to any particular State.

In this connection we would call attention to the fact that Dr. Oscar Dowling is recognized not only in Mississippi, geographically the sister State of Louisiana, but throughout the whole United States, as one of the outstanding figures in Public Health work. We do know that in the past tweny-five years the State Board of Health of Louisiana has been brought up to a standard equal to that of any in the United States. We cannot believe that the medical profession would have supported Dr. Dowling so solidly during all of these years had there been any question as to his honesty and efficiency.—J. S. U.

BOOK REVIEWS

Reflections: A Book of Poems: By James Thomas Nix, M. D., LL. D. New Orleans, Walter Neale. 1928.

Members of our profession have distinguished themselves in the fields of art and literature. Aside from their active and self-sacrificial work in human salvage, these gifted ones have, as an "entr'acte," cultivated the Muses and enriched the world with artistic creations. But, when "one of our own" leaves the beaten paths of daily routine to climb the heights of Parnassus, it is time to pause and take notice.

All real art is largely self-expression. Our "Doctor Poet" could not escape the myriad influences and human contacts of his calling. Thus it is we find a personal note in these "Reflections." And therein lies the special charm. Such themes as "Your Doctor; My Patients; When Doctors Disagree; King of Sleep; Cries; Death;" are tinctured with the Aesculapian outlook on life. Interweaving this whole collection of verses is an all-embracing sympathy, deep-souled pity, kindly humor, the love of suffering humankind.

"The Doctor calls
To nurse near by;
Unmask her face,
It's a boy!"

Here is serio-comic obstetric experience from "Cries," a startling, realistic bit of verse. In "Doctors Disagree," there is well-deserved banter at what we know to be pitifully true. One of the thrusts we quote:

"When I was fat, I should dry out,
When I was thin, I must get stout,
I know great men will disagree—
But, what a mess they've made of me."

Only a scientific mind could with poetic quality, and yet not transcending the truth, essay this definition of life:

"Though only a little protoplasm,
A jelly-like single cell,
Alive and moving, how and why?
'Tis only God can tell."

In the "River of Tears" we find the matter and form of genuine poetry. There is sombre truth in these selected stanzas:

"So tears were created by God, I know,
That burdened hearts might overflow,
They wash away all cares and grief,
And bring to every one relief."

With the keen appreciation of a physician who knows the potency of sleep, in "The King of Sleep" there is a brilliant display of imagination, yet, the whole is rock-ribbed with the healing art's background.

"Science found my hiding place
And to the world revealed,
They found me in the poppy plant.
* * * * * * *
They make me in a tablet form,
Or shape me to a pill,
Again I'm in a glass syringe,
They do just what they will."

If we could usurp journal space we would forbear from disjointing some of these real poetic utterances. The reviewer is limited to culling what impresses him as examples of genuinely good verse. Many excellent lyrics abound in this volume for the delectation of those who love the lilt and cadences of poetry. Dr. Nix, the poet engrafted upon the doctor, gets away when he chooses from the medical environment, and with larger and intenser vision of life, attunes his lyre to sing of themes forever new, such as "Love, The Sun, Hearts, Hope, Faith," and kindred inspiring subjects. With a natural gift for rhyme and rythm he runs the gamut of descriptive and narrative poetry, the quartrain, the lyric, and sonnet.

Surely, the talent, versatility, and idealism, displayed by the author of "Reflections," merits the unfeigned admiration, sincere praise, and heartiest congratulations of his confreres throughout the Pelican State.

HOMER DUPUY, M. D.

Diabetes: Its Treatment by Insulin and Diet: A Handbook for the Patient: By Orlando H. Petty, A. M., M. D., F. A. C. P. Illus. 4th ed. Philadelphia, F. A. Davis Company. 1928. pp. 152.

One of the few fighters in the great war awarded the Congressional Medal of Honor given by Congress for exceptional bravery in battle and one of the few medical men who has ever held this honor, Dr. Petty has shown his bravery in civil life as well as in war by adding to the long list still another little handbook on diabetes for the patient. However, in going over the book, noting how carefully it has been prepared, how much real and valuable information it contains and how well all the salient features of diabetes are presented in a manner which the tyro is thoroughly able to understand, one is able to appreciate the book to such an extent that the wish arises that there might be a somewhat similar honor which could be awarded the author by the medical profession for exceptional medical accomplishment as well as the one for bravery.

J. H. MUSSER, M. D.

Diagnosis and Treatment of Diseases of the Lungs: By Frank E. Tylecote, M. D., D. P. H. (Vict.), F. R. C. P. (London), and George Fletcher, M. A., M. D. (Glas.), M. R. C. P. (London), D. P. H. (Camb.) London, Oxford University Press. 1927. pp. 270.

A concise, clear and readable guide to the diagnosis and treatment of the commoner diseases of the lungs. The authors ride no hobbies; equally it is true they present no new views. Because of its size the book can hardly stretch beyond the scope of a compend. It must, therefore, share the defects and the advantages of brevity, exhibiting at times inadequacy of development of the subject but always giving a clear cut and easily comprehended as well as dependable picture.

I. I. LEMANN, M. D.

Filterable Viruses: Edited by Thomas M. Rivers, M. D. Baltimore, The Williams and Wilkins Company. 1928. pp. 428.

Dr. Rivers writes the introductory chapter covering the general aspects of filterable viruses. He indicates that the ability to pass filters is a characteristic that has been greatly over emphasized and probably occupies too prominent a position in the minds of medical men. There are other characteristics of filterable viruses which appear to be much more important. He stresses the intimate relationship between the virus and the cells of the host and the lasting immunity they produce. He doubts whether they ever have been successfully cultivated in the absence of living host cells. He presents an extremely long list of diseases of man, other mammals, fowl, fish, insects, and plants for which there is evidence that they are due to filterable viruses. He feels sure that many of these are true bacterial diseases and soon will be dropped from the list. The chapter is extremely brief, but is indeed stimulating and should be read by all medical men and, in fact, by all interested in the biological sciences.

Dr. Mudd's chapter on filters and filtration is a welcome addition to literature. I know of no other one place where such authoritative information on the scientific principles and practical technique of filters and filtration may be obtained. It is regrettable that Dr. Mudd has given so little attention to the asbestos type of filters.

In ten pages of fascinating reading Dr. Carrel gives a glimpse into the study of filterable viruses by the use of tissue cultures. He does not make the mistake that so many reviewers do of omitting essential details of technique.

Dr. Cowdry in his chapter on intracellular pathology in virus diseases covers such a large number of disease entities in so brief a discussion that were it not for the excellent illustrations, the chapter would be of little value. The cell inclusions he describes are one of the distinguishing characteristics of virus infections, as emphasized by Rivers in the introductory chapter.

Dr. Amoss writes the chapter on poliomyelitis exemplifying filterable virus infections of man. Most of the data is available in his article on poliomyelitis in Tice's System of Medicine. This article will provide little comfort for the advocates of the streptococcus theory of the etiology of the disease.

Foot and mouth disease and vesicular stomatitis are discussed by Dr. Olitsky. The virus of the foot and mouth disease is one of the most thoroughly studied of all the viruses, and this chapter may be read by any one who wishes to know the complete story, as far as is now available, concerning a single virus and the disease which it causes.

Dr. Goodpasture's chapter on fowl-pox of chickens and pigeons, Dr. Glaser's chapter on sacbrood of honey bees and the polyhedral diseases of insects, and Dr. Kunkel's chapter on virus diseases of plants are of interest chiefly to the experimental pathologist or general biologist.

Dr. Bronfenbrenner writes the final chapter on bacteriophagy. He is a critical worker in this field and does not commit himself to d'Herell's theory that the lytic agent is a true filterable virus. He gives in thirty pages the essential data concerning the so-called bacteriophage. Reviews of the Twort-d'Herell phenomenon are getting to be fashionable. For the physician with an active interest in bacteriology, who has been more or less confused during the past few years by the multiplicity of articles and opinions that have appeared concerning this phenomenon, Dr. Bronfenbrenner's article will be very welcome.

Concerning the book as a whole one must be most enthusiastic about the bibliographies. Every chapter has its own and is very extensive. Dr. Rivers' chapter of twenty-three pages is followed by a bibliography of five hundred thirty-nine titles, which are classified so as to make them readily usable. The other authors have omitted little that could be desired in the way of references. Different chapters in the book will be read by workers in many different fields, but only a few will care to read the entire book. It seems unfortunate that the book should cost as much as it does.

R. H. TURNER, M. D.

Physical Diagnosis: By W. D. Rose, M. D. 5th ed. St. Louis, C. V. Mosby Co. Illus. pl. 1927. pp. 819. $10.00.

In this fifth edition minor changes and alterations of no particular note have been made. The author has incorporated several advances in physical diagnosis into this new volume. The volume is large and contains a great deal of information that is readily obtained.

I. L. ROBBINS, M. D.

Special Cytology: Edited by Edmund V. Cowdry. New York, Paul B. Hoeber Inc. 1928. Two volumes. pp. xxi+1348, 693 illustrations.

The present publication forms a natural supplement to a volume entitled General Cytology, published in 1924 under the same editorship. The material included in General Cytology embraces the fundamentals of structure and function which are common to cells generally. Special Cytology has for its purpose a more specific treatment of particular cellular varieties, tissues and organs. The title is hardly sufficiently suggestive of the actual scope of the subjects included, which might be more aptly termed collectively "Special Cytology and Histology."

Following an introduction by Carrel, there are thirty-six sections, of which the topics and contributors are as follows: Skin and its derivatives, Cowdry; mucous membrane of the nasal cavity and paranasal sinuses, Schaeffer; epithelium of the lower respiratory tract, Miller; salivary glands, Stormont; gastric glands, Bensley; intestinal epithelium, C. C. and M. T. Macklin; cytology of the liver and its functional significance, Mann; cytology of the pancreas, Opie; the erythrocyte, Krumbhaar; lymphocytes and plasma cells, Maximow; the myeloblast, Downey; granular leucocytes, Bunting; macrophages (histiocytes), Maximow; hypophysis, Bailey; pineal body, Tilney; thyroid, parathyroids and thymus, Marine; suprarenal, Stewart; renal tubules, Huber; cartilage and bone, Shipley; synovial membrane of joints and bursae, Key; striated and smooth muscle, Meigs; cardiac muscle, A. E. Cohn; specialized systems of the heart, Todd; visual cells and retinal pigment, Arey; cytology of the internal ear, Shambaugh; internal architecture of nerve cells, Cowdry; general relation of histological character to function in mammalian neurones, Malone; sympathetic nerve cells, Kuntz; neuroglia and microglia, Penfield; cytology of the cerebrospinal pathway, Wislocki; cytology of the ovum, ovary and fallopian tube, Corner; cellular changes in the fluid of the mammalian vagina, Stockard; cytology of the mammary gland, Leo Loeb; interstitial cells of the testis, Rasmussen; male germ cells, Metz; seminal vesicles, prostate and bulbo-urethral glands, C. C. Macklin.

The individual contributors deal, naturally, with topics in the fields of their own researches. As is to be expected in a co-operative enterprise, the various sections are not treated in a uniform manner. Some sections are of the usual nature of reviews. Others introduce, in addition, personal evaluation of the material reviewed. Each section carries an adequate bibliography.

Special Cytology should be a useful reference not only for workers in the biological and basic medical sciences, but also for clinical investigators.

HAROLD CUMMINS, PH. D.

Lobar Pneumonia: A Roentgenological Study: By L. R. Sante, M. D., F. A. C. R., F. A. C. P. New York, Paul B. Hoeber, Inc. Illus. 1928. pp. 137. $3.00.

This little book of 126 pages, profusely illustrated, will be of interest to any physician interested in lobar pneumonia as well as all roentgenologists. While it is primarily an roentgen-ray study of pneumonia and its differentiation from other lung conditions, the author has attempted very successfully, to correlate the radiological findings with the known facts, clinical, pathological, and experimental. Mason and other investigators have shown that in children, consolidation of the lungs starts in the eveoli at the periphery and spreads to the hilum. The author has demonstrated that, while this is the type most frequently encountered in children, it was rarely the type of involvement met in adults. His serial roentgenographic observations in adults shows that lobar pneumonia begins as a consolidation in the hilum region and spreads rapidly toward the periphery. These observations are in accord with the most recent bacteriological and pathological studies of the disease. The book emphasizes the great value of radiological studies of pulmonary conditions without minimizing the importance of careful history taking and physical examination. The reviewer has no hesitancy in recommending this little volume to the profession.

RANDOLPH LYONS, M. D.

The Use of Symptoms in the Diagonsis of Disease: By Hobart A. Hare, B. Sc., M. D., L.L. D. 9th ed., rev. Philadelphia, Lea & Febiger. 1928. Pl. illus. pp. 528.

This volume is a ninth edition. It has been thoroughly revised and brought up to date. It is a purely clinical work and all laboratory references have been necessarily omitted. The purpose of the book is to acquaint the student and physician with the art and science and medicine and to re-establish it in its proper sphere of prime importance to the doctor and not secondary to laboratory precedures as is now so much the practice. The plan is to name the different signs and symptoms of different portions of the body and the differential diagnosis to be obtained from them. The book is a most useful guide and aid.

I. L. ROBBINS, M. D.

Post-Mortem Appearances: By Joan M. Ross, M. D., B. S. (Lond.), M. R. C. S., L. R. C. P., with preface by E. H. Kettle, M. D. 2nd ed. London, Humphrey Milford, Oxford University Press. 1928. pp. 225.

A thorough revision of an extremely practical little book of somewhat over two hundred pages describing the gross appearance of the important organs of those who die from various types of disease.

J. H. MUSSER, M. D.

The Principles and Practice of Obstetrics: By Joseph B. DeLee, A. M., M. D. 5th ed., thoroughly revised. Philadelphia and London, W. B. Saunders Co. 1928. pp. 1140. $12.00.

That a book of the size and consequent cost of DeLee's Principles and Practice of Obstetrics should within the space of fifteen years have reached its fifth edition and its thirteenth printing is a surer tribute to its real merit than the eulogies of any reviewer. And this fifth edition is quite as worthy of praise as any of the preceding volumes.

For one thing, the physical difficulties of reading it are not quite so great because, by a slight change in the format, the unwieldy size has been somewhat reduced. There is still, however, room for decided improvement in this regard. Whether the subject matter could be profitably abbreviated is a question which probably demands a negative answer, but frequently the reproach of verbosity can be justly brought against the author, and it might be well at some future time for a revision to be made simply from this standpoint. The book is too valuable to be condemned, as it unfortunately has been, on the basis of its mere bulk.

Practically the same plan has been adhered to as in the earlier editions, the subject being divided into the physiology of pregnancy, labor and puerperium, the pathology of the same, and operative obstetrics, each with its detailed subdivisions. The arrangement of the subject matter visually, *i. e.*, in large and small type, according to the relative importance of the questions under discussion, is an excellent if mechanical device, though naturally one does not always agree with the author as to what is important and what is not. The table setting forth the various types of toxemia is another excellent mechanical presentation, as is the table dealing with the management of contracted pelves. The actual mechanism of labor has always been a particularly well handled subject, and the care of the breasts and the treatment of the newborn child are both handled with a detail foreign to the average text on obstetrics. The illustrations add materially to the value of the book, and many additions have been made to them.

In every respect the subject matter has been brought up to date. All the important recent investigations in biochemistry and other laboratory sciences are included, and many chapters have been partially or entirely rewritten, notably those dealing with the treatment of hyperemesis gravidarum, eclampsia and the other toxemias of pregnancy, abruptio placentae, placenta previa, postpartum hemorrhage, puerperal infection and similar conditions. Likewise the chapters dealing with the various operative procedures have been thoroughly revised. The low or cervical Cesarean section, which DeLee himself has done so much to popularize, is treated in much more detail than in the last edition, and the figures from the Chicago Lying In Hospital, six hundred twenty cases with only six deaths, are the author's justification for his advocacy of this particular procedure. Zarate's modified symphysiotomy is added, as is the Gottschalk-Portes exteriorization of the uterus after Cesarean section in infected cases. The author's comment is that if the claims of the latter procedure can be substantiated, as they apparently can be, the whole chapter of the management of infected labors must be rewritten, and the field of the Porro operation and of craniotomy on the living child can be very materially reduced.

The radicalism of this author is always a favorite topic with reviewers and in some respects, at least, the approach is justified. Even the fact that he would limit certain procedures to the expert obstetrician operating in the well equipped maternity does not, it seems to me, lessen the danger of advocating such methods as cervical manipulations in uterine inertia (p. 615), the manual removal of retained placental fragments except on very strictly limited indications (p. 833), and the application of the vulsellum to steady the fetal head after manipulation in face presentations (p. 995). Against this, however, must be set his conservatism in the management of puerperal infection and particularly infected abortions, in the management of placenta previa, in the use of pituitrin, in the repair of cervical lacerations after delivery, and in a hundred similar instances. In my own opinion, the radicalism of DeLee has become a tradition with certain reviewers, and I am inclined to believe that most often it is more apparent than real.

Certainly, as the author points out, the continued high mortality in obstetrics is a justification for his view that pregnancy and labor are largely pathologic, and his insistence on the essentially surgical nature of this division of medicine is not ill-advised in a day when the general feeling seems to be that no special qualifications are required to handle a delivery other than the right to add M. D. to one's name.

This is rather too full a text to put into the hands of the average medical student for his daily use but it is an invaluable book of reference, a real encyclopedia, both for the general practitioner who does obstetrics and for the obstetric specialist who endeavors to keep abreast of the times. It is one of the few books in any tongue in which obstetrics is presented both as a science and as an art, and in which the subject receives a really dignified and adequate presentation.

C. Jeff Miller, M. D.

An Outline History of Ophthalmology: By T. H. Shastid, A. M., M. D., F. A. C. S., Sc. D., Ll. B. Southbridge, Mass.,American Optical Co. 1927. pp. 33.

If you really love Ophthalmology, read this small volume. You will enjoy every word. It will bring before your eyes the procession of ophthalmic progress from the days of Ancient Babylon to our generation and will enable you to shake hands with Hippocrates and chat with von Graefe.

Hippocrates will tell you how he treated trachoma some twenty-five hundred years ago with conjunctival massage in pretty much the same way that we use today.

Some two thousand years ago a Roman named Celsus elaborated on the then existing Colyria. He tried everything from camel dung to cod-liver oil, with and without religious ceremonies of various sorts. He at least knew that oily substances protect the cornea when its surface was abraded.

Although the word cataract was uot used until a later date, lens opacities were considered due to an opaque fluid which flowed downward between the pupil and the lens, by Rhazas, an Arabian who lived about a thousand years ago. He also noted that the pupils become smaller when exposed to light. Alhazen a fellow country-man somewhat later worked out the fundamentals which underlie modern optics. He was the first to understand that vision is produced primarily by the light which comes from the object at which we look.

As the result of an accident in the course of a cataract depression in 1745, large fragments of lens fell into the anterior chamber, which Daviel removed by means of a scissors incision in the cornea—the first cataract extraction.

Although Von Helmholtz in 1850 discovered that the back of the eye could be examined with the optholomscope, the real discoverer was an Englishman named Charles Babbage, who through an unfortunate chain of circumstances, did not receive the credit nor recognition of his efforts.

These are but a few of the interesting facts that the author tells us.

It is with great regrest that we read that Dr. Shastid will retire from opthalmic literature. For practically a generation he has devoted his time, efforts, and exceeding literary ability largely to recounting the lives of those who have made opthamology. Practically, unassisted he wrote the biographies in the American Encyclopedia of Ophthalmology. Without his efforts our specialty would be poorer and most of us would not be nearly so well acquainted with those who have consecrated their lives to helping the world see better.

CHARLES A. BAHN, M. D.

Healthy Growth: By Alfred A. Mumford, M. D. London, Oxford University Press. 1927. pp. 384.

The author of this excellent book desires to attack the problem of healthy growth from a different angle from previous methods. The author has in mind the adolescent schoolboy, whom he feels has not been properly equipped for the great perplexities of later life. He attributes this failure to our possesion of inadequate standards of healthy growth, both from the physical and mental standpoint.

Throughout the book the author endeavors to substantiate his arguments by many elaborate experiments and complicated charts of what he thinks are standards. It is the reviewer's opinion that much of this could be condensed. However, anyone desiring exhaustive information along lines of physical and mental development is recommended to read this book, as it is undoubtedly written in a most delightful style.

O. M. LARRIMORE, M. D.

Troubles We Don't Talk About: By J. F. Montague, M. D., F. A. C. S. Philadelphia, J. B. Lippincott Company. 1927. pp. 248.

A book for the laity written by a proctologist of broad mind and keen intelligence.

J. H. MUSSER, M. D.

The Prevention of Preventable Orthopedic Defects: By S. C. Woldenberg, B. Sc., M. D., M. Sec. St. Paul, Bence Publishing Co. 1927. pp. 120.

This is the first time your reviewer has ever seen a book which has attempted to deal with preventable surgery, and as our good friend Dr. Ridlon in his foreword says: "When the author asked me for advice, I harbored a secret hope that he might to some extent point out the way to eliminate much of the present surgery from Orthopedic surgery".

The book does not attempt anything new and as is covers a large field in 120 pages, little can be said on any one subject. However, there are many valuable suggestions brought out and a perusal of the book is well worth one's time.

EDWARD S. HATCH, M. D.

Annals of the Pickett-Thomson Research Laboratory, Volume II. Baltimore, Williams and Wilkins Company. 1927. pp. 316.

A large paper-covered tome devoted to research on streptococci, with extensive bibliography and many very excellent plates.

J. H. MUSSER, M. D.

The Examination of Patients: By Nellis B. Foster, M. D. 2nd ed., rev. Philadelphia, W. B. Saunders Company. 1928. pp. 392.

There is a great tendency in medical teaching to do away with much of the former old methods of instruction, such as those, for example, which require men studying for medicine to learn an enormous amount of material by rote and without thought. The present book by Foster exemplifies very well indeed this method of teaching. The important, salient features in the examination of the patient are disclosed and are presented in a real and attractive manner. There is no attempt to list a thousand and one different signs and symptoms which every practitioner of medicine who has been out more than a few years has forgotten and which do not form the basis of that man's knowledge of clinical medicine. It is for this reason that the book is of value. It stresses the important and does away with a tremendous amount of the unnecessary and trivial.

J. H. MUSSER, M. D.

Ophthalmic Year Book: V. 23. 1927. Chicago, Ophthalmic Pub. Co. 1927. pp. 338.

This review of literature will probably be the last of a valuable collection of digest and bibliography, for the reason that it lacks volunteer literary help and financial backing. This is unfortunate for it has been greatly appreciated by many, yet great numbers have neglected to give to it actual support. Let us hope that this will not be the case and that it will be possible to continue the publication as heretofore.

T. J. DIMITRY, M. D.

A Text-Book of General Bacteriology: By Edwin O. Jordan, Ph. D. Illus. 9th ed., rev. Philadelphia, W. B. Saunders Company. 1928. pp. 778.

The ninth edition of this standard text-book on bacteriology needs no introduction to the world of bacteriologists nor does it need much acclaiming to the medical profession as a whole, many of whom have learned from its pages much that they know about bacteriology This new edition has been added to and amended as well as deleted in part, for its presents size is much the same as previous editions. Dr. Jordan has revised and rewritten the chapter on parasitic protozoa, he has added new material on the bacteriology of scarlet fever, erysipelas and rheumatic fever, and the section on bacteriology of water has been extensively altered. Minor changes have been made so as to bring the subject matter thoroughly up to date.

J. H. MUSSER, M. D.

PUBLICATIONS RECEIVED.

F. A. Davis Company, Philadelphia: Hay-Fever and Asthma, by Ray M. Balyeat, M. A., M. D., F. A. C. P.

Williams & Wilkins Company, Baltimore: Nutrition, by Walter H. Eddy, Ph. D.

P. Blakiston's Son & Co., Philadelphia: Practical Cliincal Psychiatry for Students and Practitioners, by Edward A. Strecker, A. M., M. D., and Franklin G. Ebaugh, A. B., M. D.

C. V. Mosby Company, St. Louis: Operative Surgery, by J. Shelton Horsley, M. D., F. A. C. S. Modern Methods of Treatment, by Logan Clendening, M. D. Clinical Gynecology and Obstetrics, by Rae Thornton La Vake, A. B., M. D., F. A. C. S. Syphilis, by Henry H. Hazen, A. M., M. D. The Duodenum, by Pierre Duval, Jean Charles Roux and Henri Beclere, translated by E. P. Quain, M. D.

W. B. Saunders Company, Philadelphia and London: Collected Papers of the Mayo Clinic and the Mayo Foundation. Clinical Medicine, by Oscar W. Bethea, M. D., Ph. G., F. C. S., F.A.C.P. Addresses on Surgical Subjects, by Sir Berkeley Moynihan, Bart, Gynecology, by William P. Graves, A. B., M. D., F.A.C.S.

The MacMillan Company, New York: Folklore of the Teeth, by Leo Kanner, M. D.

William Wood and Company, New York: International Medical Annual, 1928.

Gaston Doin et Cie, Paris: Les Associations Microbiennes Leurs Applications Therapeutiques, par G. Papacostas & J. Gate.

Rockefeller Foundation, New York: Methods and Problems of Medical Education.

Nervous and Mental Disease Publishing Co., New York and Washington: Introduction to the Technic of Child Analysis, by Anna Freud of Vienna.

Gaston Doin & Cie, Paris: Precis de Medicine Infantile.

Nurses, Patients, and Pocketbooks, report of a study of the economics of nursing conducted by the Committee on the Grading of Nursing Schools, by May Ayres Burgess, Director.

REPRINTS.

Report of Committee appointed to Investigate Definition of Terms used in active Optic Pathology. The Treatment of Malarial Anemia, by Joaquin R. Toba, M. D. Gonorrhea in Women: Its Treatment by Diathermy, by Winfield Scott Pugh, B. S., M. D.